A MANUAL OF MENTAL SCIENCE

OR

CHILDHOOD
ITS CHARACTER AND CULTURE

J. A. FOWLER

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A MANUAL

OF

MENTAL SCIENCE

FOR TEACHERS AND STUDENTS

OR

Childhood: Its Character and Culture

BY

JESSIE A. FOWLER

AUTHOR OF "THE EARLY DEVELOPMENT OF OUR CHILDREN," "PHRENOLOGY IN THE SCHOOLS," "PHYSICAL CULTURE," "THE LIFE OF DR. GALL," ETC.

Illustrated

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To

LORD LONDONDERRY

CHAIRMAN OF THE LONDON SCHOOL BOARD

AND

CHARLES BUCKLEY HUBBELL

PRESIDENT OF THE BOARD OF EDUCATION, NEW YORK

AND ALL EDUCATIONAL BENEFACTORS AND SUPPORTERS

OF ALL REFORMS THAT TEND TO MAKE A BETTER

MANHOOD AND WOMANHOOD, THIS

HUMBLE VOLUME IS

INSCRIBED

PREFACE.

One of the most successful teachers in a young ladies' seminary was qualified by talent, study, and culture to instruct the young, plastic natures under her training in the department of decorum. She gave them vocal culture, taught them how to walk, how to sit, rise, and stand, how to respond to a cordial address, and how to enter and leave a room—in other words, instilled decorous methods of expression and movement.

The preface of a book seems to require these elements in harmonious combination. A preface makes a favorable or an unfavorable impression upon those who read it. It is like an introduction—the beginning of an acquaintance.

The work which follows this preface is as important as its title indicates.

Childhood represents the frontal stair-step of the future. Everything is new. Childhood is full of wonder, anxiety, capacity, and faith. It wants to believe anything that age and wisdom can impart. It believes in its seniors; in their virtue, their intelligence, their love, their sincerity, and their reliability. The open eyes of childhood look with entire confidence in the face of the teacher, the elder sister, or the mother, prepared to believe all that they say, and to accept all they know. To a child such instruction is the end of knowledge; it is the acme of truth. Imagine a child of sensitive con-

stitution, and imbued with the spirit of conscience, faith, hope, and love, looking into its teacher's or mother's face, and compelled to believe that deception and falsehood are being expressed! If a man who has lived for fifty years in honor and reputation is accused and convicted of falsehood and fraud, the honest, sympathetic public is struck dumb by the announcement; a child should be assured of the integrity and truth of its seniors and teachers.

Childhood, then, is the pupil: character and culture are the topics to be developed; and motherhood, sisterhood, and teacherhood are the agencies for moulding into forms of beauty, excellence, and truth the growing nature, which is receptive, intelligent, eager, and loving.

A knowledge of this teachable being, a sense of his natural capabilities and peculiarities, is the first and most important theme to be understood. Phrenology and physiology open this knowledge to the well-qualified teacher. The pupil's culture and guidance, then, depend upon the teacher's wisdom, prudence, equity, balance of character, and power to be the guide, overseer, and ruler of the confiding pupil. The place of motherhood, or the function of the teacher, is invested with responsibilities that are immortal, and not always invisible.

Who is sufficient for these things? Who can take the candidate for immortality in his desire to know and willingness to learn; in his energy and effusiveness of soul; who can guide, mould, and master him, and lead him toward honor and immortality? The more knowledge of the being to be educated that can be possessed by the teacher, the better will be the work of education. We do not send a watch to a blacksmith to be repaired, or a fine carriage to a man who only knows how to build

wheelbarrows; we seek an expert in watchmaking, in carriage building, or character building.

To study the brain and nervous system and all that belongs to throbbing, young humanity, and thus become able to lead it, teach it, control it, and uplift it, requires the sum of human culture, tact, and attainment to do the best in this field that is required and possible.

The following pages aim to assist those who have this great and important work to do, and to make the pathway plain.

So complex a subject as the human constitution, mental and physical, to be kept in health, so intricate and mingled in shades of faculty and passion that need to be made pleasantly subservient to a higher wisdom than its own, is a field of effort and influence worthy the highest aspiration; and whoever, as mother or teacher, faithfully and wisely fulfils this great duty will do a work that shall be vivid with blessing and benefit when temples and pyramids shall have become common dust.

NELSON SIZER.

September, 1897.

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CHART OF MENTAL FACULTIES

OF

_____

AS GIVEN BY

_____

ADDRESS AND DATE

_____

EXPLANATION OF DEGREES MARKED BY EXAMINER.

7. Very large.	(See definition on following pages.)	
6. Large.	6 to 7 = $6\frac{1}{2}$.	$6+ = 6\frac{1}{4}$.
5. Full.	5 to 6 = $5\frac{1}{2}$.	$5+ = 5\frac{1}{4}$.
4. Average.	4 to 5 = $4\frac{1}{2}$.	$4+ = 4\frac{1}{4}$.
3. Moderate.	3 to 4 = $3\frac{1}{2}$.	$3+ = 3\frac{1}{4}$.
2. Small.		
1. Very small.		

Faculties marked 4 or under need cultivation.

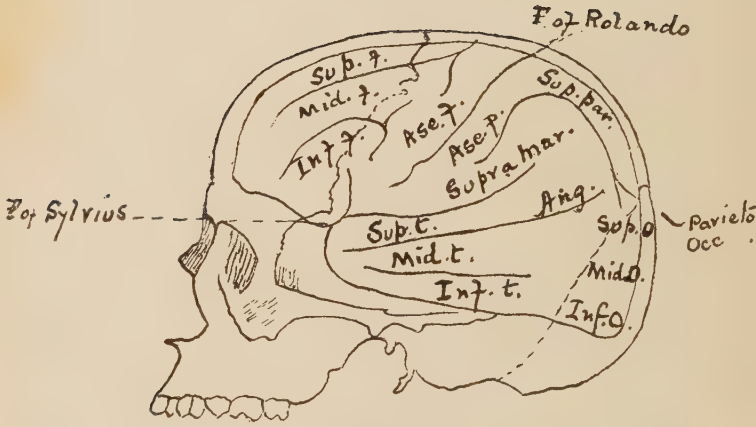
Faculties marked 7 need restraining.

Chart of Character.

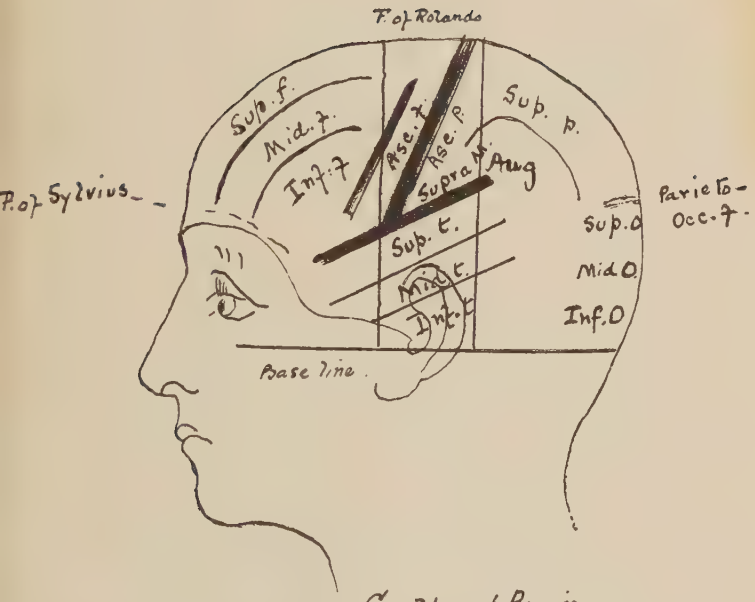
Table of	Degrees.		Cultivate.	Restrain.
Size of Head				
Quality				
General Health				
Like Father				
Like Mother				
Vital Temperament				
Lung Power				
Circulation				
Digestion				
Motive Temperament				
Activity				
Mental Temperament				
Excitability				
1. Love of the Opposite Sex				
2. Constancy				
3. Attachment to Children and Pets				
4. Friendship				
5. Love of Home; patriotism				
6. Application				
7. Hold on Life				
8. Courage				
9. Energy				
10. Appetite				
11. Economy (Acquisitiveness)				
12. Reserve				
13. Forethought (Cautiousness)				
14. Ambition				
15. Self Respect; Independence				

Chart of Character—Continued.

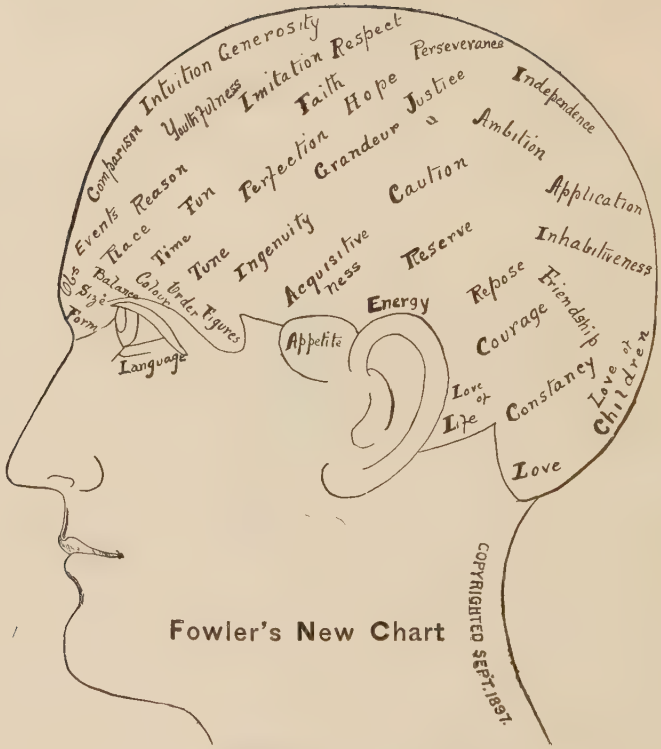
Table of	Degrees.		Culti-vate.	Re-strain.
16. Firmness; Perseverance				
17. Justice (Conscientiousness)				
18. Cheerfulness				
19. Faith				
20. Respect (Veneration)				
21. Generosity (Benevolence)				
22. Ingenuity (Constructiveness)				
23. Perfection (Ideality)				
24. Grandeur (Sublimity)				
25. Imitation				
26. Fun; Wit				
27. Observation (Individuality)				
28. Memory of Forms				
29 Memory of Sizes				
30. Balance				
31. Memory of Colors				
32. Order				
33. Memory of Figures (Calculation)				
34. Memory of Places				
35. Memory of Facts and Names				
36. Punctuality (Time)				
37. Memory of Sounds (Tune)				
38. Language				
39. Reason (Causality)				
40. Comparison				
41. Intuition				
42. Youthfulness (Agreeableness)				
43. Repose				



Skull and Brain



Scalp and Brain



DEFINITION OF ORGANS.

Love of the opposite sex.
Constancy.
Attachment to children and pets.
Friendship.
Love of home; Patriotism.
Application (Continuity).
Hold on life.
Courage.
Energy.
Appetite.
Economy (Acquisitiveness).
Reserve (Secretiveness).
Forethought (Cautiousness).
Ambition (Approbativeness).
Self-respect; Independence.
Firmness; Perseverance.
Justice (Conscientiousness).
Cheerfulness (Hope).
Faith (Spirituality).
Respect (Veneration).
Generosity (Benevolence).
Ingenuity (Constructiveness).

Perfection (Ideality).
Grandeur (Sublimity).
Imitation.
Fun; Wit. Mirthfulness.
Observation (Individuality).
Memory of forms.
Memory of sizes.
Balance (Weight).
Memory of colors.
Order.
Memory of figures (Calculation).
Memory of places.
Memory of facts and names.
Punctuality (Time).
Memory of sounds (Tune).
Language.
Reason (Causality).
Comparison.
Intuition (Human Nature).
Youthfulness (Agreeableness).
Repose.

A MANUAL OF MENTAL SCIENCE

OR

CHILDHOOD:

ITS CHARACTER AND CULTURE

A TEXT BOOK FOR TEACHERS

CHAPTER I.

INTRODUCTORY.

As the twentieth century approaches, the lessons to be learned from day to day in our large public schools will be taught on an improved method—more beneficial and less exhaustive, and include some knowledge that will be helpful to young students desiring to understand the real operations in their mental workshops.

In presenting this manual to the public, the desire has been to stimulate a closer understanding between teachers and the perplexing, yet interesting, little mites of humanity who brighten our homes and cheer our solitude. So infinitely various are their characteristics that personal study of each mind is found practically necessary.

It is especially adapted to meet the needs of many teachers who are already interested in mental science and are asking for such assistance, and it is hoped that its pages will also succeed in awakening interest among those who know but little about its principles.

The individuality of the book explains, in a condensed form:

First—The various bones of the skull.

Second—The important parts of the brain.

Third—The temperaments, so that the characteristics of each child may be easily detected.

Fourth—Its original way of arranging the matter according to the development of childhood.

Fifth—The location of the faculties, not only in the head but in the brain.

Sixth—The physiognomical sign of the faculties, which has not been given in any previous work in a consecutive manner or on any phrenological plan.

Seventh—It is divided into two parts. (a) Each faculty contains a short explanation for teachers which is more technical than that which follows for the children. (b) For the children themselves, to assist them in cultivating and restraining the needful faculties by a simple knowledge of each element of their minds.

Eighth—There will be found a German equivalent, appropriate for each English term, and the name of the discoverer of each faculty.

Ninth—It is intended as a stepping stone for students of mental science, for they will find thoughts presented in a new form and in portable size.

Tenth—The seven groups of faculties.

The language of the first group of faculties is:

I want—to eat.
I want—to live.
I want—to possess.
I want—to conquer.
I want—to whisper.
I want—to work.

The language of the second group is:

I want to see—faces.
I want to see—forms.
I want to see—sizes.
I want to see—colors.
I want to see—places.
I want to see—people.
I want to hear—stories.
I want to count—figures.

The language of the third group is:

I want to—work.
I want to—construct.
I want to—beautify.
I want to—compose, or play, and sing.
I want to—imitate.
I want to—joke and laugh.

The language of the fourth group is:

I want to—achieve.
I want to—please.
I want to—rule.
I want to—foresee.

The language of the fifth group is:

I want to—reflect.
I like to—be agreeable.
I want to—compare.
I want to—introspect.

The language of the sixth group is:

I want to—love.
I want to love my—home.

I want to love my—country.
I want to love my—friends.
I want to love—children and pets.
I want to love my—special companion.

The language of the seventh group is:

I want to—give.
I want to—hope.
I want to—trust.
I want to—obey.
I want to—persevere.
I want to—judge.
I want to—rest.

Eleventh—A glossary of Anatomical terms suitable for advanced students.

Twelfth—Chart of Character, and Psychological Chart.

CHAPTER II.

THE SKULL.

For Teachers.

Craniology (Gr. kranion, cranium; logos, a discourse, and skopein, to examine). It signifies a description, or simply an examination of the different parts of the external surface of the cranium, in order to thence deduce a knowledge of the different intellectual and moral dispositions. "The cranium being moulded to the brain, there are as many prominences on the bone as there are projections at the surface of the brain." Strictly speaking, it is by Cranioscopy that we acquire a knowledge of Craniology, Organology, or Cranology.

Phrenology (Gr. phren, the mind; logos, science), the science of the mind or a system of mental philosophy founded on the physiology of the brain. It points out the relation between the developments of the brain, and the manifestations of the mind. It is classified into a complete system of mental and moral philosophy by reducing the operations of the mind to their primary elements.

For Children—Questions on the Skull.

(a) Of how many bones is the skull composed? (b) What is the name and location of each? (c) What

unite the bones? Give their names. (d) What measurements should be taken? (e) What rules can be followed for finding the chief fissures?

ANSWERS.

(a) "What is the number of the bones of the skull, Jennie?" "The bones of the skull are eight in number."

The above cut represents the skull of a New Zealand chief. The Maories are large in build, have fine constitutions, and are well proportioned muscularly.

(b) "What are their names, Robert?" "Their names are the frontal bone, which forms the upper and fore

part of the head; the occipital bone, which forms the lower and back part; the two parietal bones, which lie between the frontal and occipital and form the sides and top of the head; the two temporal bones, which lie in the temples and form the lower parts of the sides of the skull; the ethmoid bone, which lies in the base of the skull, immediately over and behind the nose; the sphenoid bone, which lies between the ethmoid and occipital bones, and supports the centre of the brain."

(c) "Alice, how are the bones united?" "The bones are united by sutures or seams. The coronal suture runs between the frontal and parietal bones; the lambdoidal between the parietal and the occipital, and the sagittal suture between the two parietal bones, along the centre of the head, stretching from the coronal to the lambdoidal suture. Sometimes it extends to the nasal bones, and divides the frontal bone, but this is exceptional, as the frontal bone generally ossifies in childhood. The temporal sutures unite the temporal bones to the parietal, occipital, and frontal bones. The sphenoidal and ethmoidal sutures connect these two bones with the frontal, parietal, temporal, occipital, and facial bones."

(d) "I have found, children, that the best measurements to be taken are (1) the circumference of the head, by passing the tape around the basilar portion, over the orbital arches in front, immediately above the ears on the side head, and over the largest portion of the middle back-head; (2) from the opening of one ear to the other; (3) from the nasal bones (or glabella) in the anterior, to the occiput in the posterior region.

"You may all take out your slates and copy down as I write on the blackboard the rules for finding the chief

fissures of the brain on the skull and scalp (or head) and study them afterward." *

THE FISSURE OF SYLVIUS AND ITS RELATION TO THE SKULL.

The commencement of this fissure on the lateral portion of the brain corresponds with the union of the great wing of the sphenoid, the squamous part of the temporal bone, the frontal and the parietal bones, which junction or union is called the pterion. The fissure next ascends almost vertically and nearly parallel to and just behind the coronal suture, passes along the squamous suture, and ends beneath the parietal eminence.

To find the fissure of Sylvius in its corresponding position on the scalp or head, draw a line on the scalp just an inch and a quarter behind, and one-quarter of an inch above the external angular process of the frontal bone, and extend it backward and upward for about three inches, to about three-quarters of an inch below the most prominent part of the parietal eminence, about two inches behind the external angular process.

THE FISSURE OF ROLANDO AND ITS RELATION TO THE SKULL.

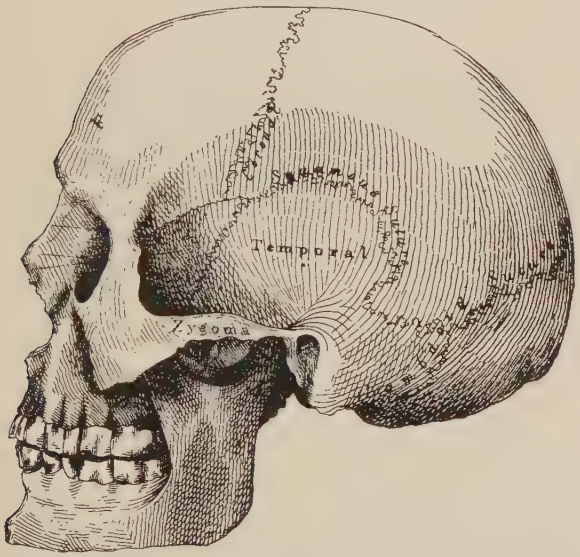
This fissure begins at the vertex of the skull, a little behind the coronal suture, and thence runs downward and forward nearly parallel to that suture, being a little less than two inches behind it above, and nearly one and a third to one and a half inches behind it below. It

* These rules refer to a head 22 inches in circumference, but for all heads smaller in size a relative proportion in measurement must be taken.

makes an angle of 67½° degrees with the median line of the skull.

ITS RELATION TO THE SCALP.

The relation of this fissure to the scalp is determined by finding the junction of the sagittal and coronal sutures or the bregma, by drawing a vertical line over the



An illustration of skull, showing the principal bones and sutures.

vertex, from one orifice to the other. The upper end of the fissure of Rolando will be found sixty-five millimetres, or two and a half inches, behind the bregma. The lower end of the fissure is determined by taking a point seven centimetres, or a little more than two inches,

behind and three centimetres, or less than two inches, above the external angular process of the frontal bone (5 centimetres = 2 inches).

Another way is to take a point at the vertex of the skull, half an inch behind the mid-point between the root of the nose and the external occipital protuberance for its upper portion, and the lower end lies in close relation to the horizontal limb of the fissure of Sylvius, about one inch behind the point of bifurcation of that fissure.

An illustration of a skull, showing its inferior internal aspect.

A third way, as indicated by the diagram, suggests that a base line be drawn from the lower margin of the orbit backward through the centre of the external auditory meatus. From this base line draw two perpendicular lines, one from the posterior border of the mastoid process of the temporal bone, the other from the depression in front of the external auditory meatus. A diagonal line drawn from the point at which the posterior

perpendicular line cuts the middle line of the vertex to the point at which the anterior perpendicular line meets the line indicating the position of the horizontal limb of the fissure of Sylvius gives the position and the direction of the fissure of Rolando.

THE PARIETO-OCCIPITAL FISSURE.

(1) The Relation to the Skull.—The parieto-occipital fissure lies in the upper posterior parietal area of the brain, a little in front (seven to eight inches) of the lambda. From this point the fissure is directed downward and outward for about an inch.

(2) Its Relation to Scalp.—The lambda is found by taking a point in the middle line of the vertex, two to three inches above the external occipital protuberance, and drawing a line about an inch long, downward and outward, from a point a little in front of the lambda. The fissure may be approximately indicated by a continuation backward of the line representing the horizontal limb of the fissure of Sylvius.

The intra-parietal sulcus lies under the parietal eminence, and its position is indicated on the scalp by drawing a line in front of the parietal eminence and carrying it upward and backward along the upper limit of that eminence. There; that is a very important lesson, and one you will soon learn to appreciate.

CHAPTER III.

THE BRAIN.

For Teachers.

The Brain, or Encephalon, is the organ of the mind; the physical instrument of thought and feeling; the medium of mental manifestation.

This term is sometimes applied to the whole of the contents of the cranium; at others, to the upper portion. The brain, properly so-called, extends from the os frontis to the superior occipital fossæ. Anteriorly, it rests on the orbitar vaults; behind this, on the middle fossæ of the base of the cranium; and posteriorly on the tentorium cerebello super-extensum.

(1) Cerebrum, the superior and larger portion of the brain. It consists of two substances, gray and white, and is the seat of volition, feeling, and ideation.

(2) Cerebellum, the "little" brain, that portion of the encephalon which is contained in the inferior occipital fossæ below the tentorium.

The cerebellum is the seat of force and power, and if strong in development gives warmth, ardor, and creative power to all faculties of the mind.

The medulla oblongata is the enlarged upper end of the spinal cord.

FOR CHILDREN.—QUESTIONS ON THE BRAIN.

(a) What is meant by the word brain? (b) Of what is the brain composed and by what covered? (c) How is it divided? (d) Name the various lobes. (e) What are the chief divisions of each lobe? (f) How many fissures divide the outer surface ? Give their names. (g) Name the parts of the brain to be seen on the under, or basilar, and

An illustration of a human brain, with the membranes removed.

side, or longitudinal, sections. Name the cerebral nerves. (h) Describe the structure of the cortex of the brain.

ANSWERS.

(a) Our brain is the material organ through which our minds manifest themselves and receive all the impression made on various parts of the body.

(b) Of two kinds of matter—a gray or cineritious, and a white or medullary substance. It is covered with three

membranes: the dura mater and fibrous or hard matter; the arachnoid or transparent and web-like membrane; the pia mater, or vascular, membrane, composed of blood-vessels.

(c) "John, tell me how the brain is divided." "The brain is divided into two hemispheres, five lobes, and forty-three organs."

(d) "Alice, how are the lobes divided?" "The five lobes are called the frontal, the parietal, the occipital, the temporal, sphenoidal, and the central lobe, or Island of Reil."

(e) "Henry, if you go to the blackboard, can you write down the divisions of the lobes into convolutions?" "I will try, teacher!" said Henry. Whereupon he stepped to the board and wrote out the following:

THE FRONTAL CONVOLUTIONS.

The Frontal Lobe.—The Outer Surface comprises:

Ascending Frontal,
Superior Frontal,
Middle Frontal,
Inferior Frontal.

Inner Surface: Described under mesial surface.
Lower Surface:

Internal Orbital (Gyrus rectus),
Anterior Orbital,
External Orbital.

THE PARIETAL CONVOLUTIONS.

The Parietal Lobe.—Outer Surface:

Ascending Parietal,
Superior Parietal,
Supra Marginal, or
Inferior Parietal,
Angular Gyrus.

Inner Surface: Described under the mesial surface.

THE OCCIPITAL CONVOLUTIONS OF THE OCCIPITAL LOBE.

Outer Surface:

Superior Occipital,
Middle Occipital,
Inferior Occipital.

Inner Surface: Described under mesial surface.
Lower Surface: See under the Temporo-Sphenoidal.

THE TEMPORO-SPHENOIDAL CONVOLUTIONS OF THE TEMPORO-SPHENOIDAL LOBE.

External Surface:

Superior Temporo-sphenoidal,
Middle Temporo-sphenoidal,
Inferior Temporo-sphenoidal.

Lower Surface: Superior and inferior occipito-temporal.
Upper Surface: Two or three indefinite gyri.

THE CONVOLUTIONS PRINCIPAL ON THE MESIAL SURFACE.

Gyrus fornicatus,
Marginal,
Hippocampal (uncinate),
Dentate,
Quadrate (præcuneus),
Cuneus,
Paræcentral lobule.

(f) "Ella, will you point out to the class the fissures that you find on this model of the brain?" "I find there are three principal fissures on the surface of the brain. The fissure of Sylvius, the fissure of Rolando, and the parieto-occipital."

(g) "Alfred, will you point out on this diagram what you find located at the base of the brain as I name the parts?" "The parts of the brain seen on its basilar surface," are:

1. The Medulla.
2. The Cerebellum.
3. The Pons Varolii.
4. The Crura Cerebri.
5. The Interpeduncular Space.
   (a) Posterior perforated space.
   (b) Corpora albicantia.
   (c) Pituitary body.
   (d) Infundibulum.
   (e) Tuber cinereum.
   (f) Anterior perforated spots.
   (g) Optic commissure.
   (h) Optic tracts.
   (i) Optic nerves.

(j) Lamina cinerea.

(k) Peduncles of the corpus callosum.

(l) Rostrum of the corpus callosum.

6. The Cranial Nerves.

7. Under Aspect of Frontal and Parietal Lobes.

8. Fissure of Sylvius and part of the great longitudinal fissure.

9. Blood-vessels—Circle of Willis.

"Very well done, Alfred. Some day I will dissect a sheep's or a calf's brain for you, and then you will find what you now know about the human brain very useful."

"The cranial nerves, dear children, are most interesting. The inferior aspect and their superficial origins are as follows. I will write them on the blackboard for you:

ORIGIN.

First Pair—Olfactory Nerves—Olfactory bulbs.

Second Pair—Optic Nerves—Crura cerebri and ganglionic centres.

Third Pair—Motor Oculi Nerves—Crura cerebri, close to pons.

Fourth Pair—Patheticus Nerves—Between the cerebrum and cerebellum.

Fifth Pair—Trifacial Nerves—Fourth ventrical cerebellum.

Sixth Pair—Abducens Nerves—Fourth Ventricle.

Seventh Pair—Facial Nerves—The groove between the olivary and restiform bodies.

Eighth Pair—Auditory Nerves—Fourth Ventricle.

Ninth Pair—Glosso-Pharyngeal Nerves—Fourth ventricle.

Tenth Pair—Vagus or Pneumogastric Nerves—Behind and below the seventh nerves.

Eleventh Pair—Spinal Accessory Nerves—Fifth and sixth cervical nerves.

Twelfth Pair—Hypoglossal Nerves—Between the pyramids and the olives and floor of the fourth ventricle.

"Now, I will open the model of the brain, and you shall repeat after me the various parts that we can see on the longitudinal section, which are, the medulla, cerebellum, pons, locus perforatus posticus, corpora albicantia, crus cerebri, middle commissure, tuber cinereum, infundibulum, pituitary body, optic nerve, lamina cinerea, anterior

The Longitudinal Section of the Brain.

commissure, foramen of Monro, rostrum, genu, septum lucidum, corpus callosum, fornix, velum interpositum, peduncle of pineal gland, third ventricle and optic thalamus, splenium pineal gland, posterior commissure, corpora quadrigemina, aqueduct of Sylvius, superior cerebellar peduncle, fourth ventricle, arbor vitæ.

(h) "John, can you now tell me the structure of the brain cortex?" "The gray matter of the cerebral cortex

is arranged in several more or less distinct layers composed of neuroglia, blood-vessels, lymphatics, nerve-cells, and nerve-fibres. There are four layers that are generally described, which are: (1) The molecular or superficial layer; (2) the layer of small pyramidal cells; (3) the layer of large pyramidal cells, and (4) the layer of polymorphous cells."

"Very good, John.

"And now, children, you will soon understand how important a part the brain plays in our mental economy, and how necessary it is that you should know all about what we have been talking about to-day. Our next lesson will be upon temperaments."

CHAPTER IV.

THE TEMPERAMENTS.

The temperaments include the mental, motive, and vital, or the nervous, sanguine, bilious, and lymphatic.

For Teachers.

Temperament (L., tempero, to combine or proportion duly), the condition of the constitution resulting from the combination of the various elements of the organization.

Quality (L., qualitas, how or so constituted), the first basilar and all-potent condition of all power of function. It lies behind and below and is infinitely more potential than education and all associations and surrounding circumstances. Fine organic quality is shown by a person being fine-grained, pure-minded, ethereal, sentimental, refined, high-toned, intense in emotion, full of human nature, most exquisitely susceptible to impressions of all kinds, most poetic in temperament, lofty in aspiration, and endowed with wonderful intuition as to truth, aspiring after a high state of excellence. Possessing fine hair, a fine skin, and clear complexion.

Questions on the Temperaments.

(a) What do we mean by the word temperament? (b) How were the temperaments once classified? (c) How

An Illustration of All the Temperaments.

have their names been divided and simplified for present use? (d) How do the two classes correspond? (e) How are they blended in our characters? (f) Do they affect the working of the mind? (g) Can they be altered by encouraging one that is weak and restraining another

Illustration of the Mental Temperament.

that is strong? (h) How do they show their characteristics in different people? (i) What comprises the motive temperament? (j) What comprises the vital? (k) What comprises the mental? (l) Do the different nations show a distinct temperament? (m) What is the Roman temperament? (n) What is the Greek's? (o) What is the

Jew's? (p) What is the German's? (q) What is the Scandinavian's? (r) What is the Englishman's? (s) What is the American's? (t) What is the Scotchman's? (u) What is the Irishman's? (v) What is the Frenchman's? (w) What is the Italian's? (x) What is the Spaniard's? (y) What is the Russian's? (z) What are the temperaments of some of the lower animals?

Answers.

(a) A certain state of constitution which has a great effect on the energy and activity of the brain and system.

(b) The lymphatic (stomach); the sanguine (lungs or thorax); the bilious (liver and fibrous); the nervous (brain).

(c) The motive, or mechanical; the vital or nutritive; and the mental or nervous.

(d) The nervous, or mental, possess fine hair, small muscles, sharp features, and preponderance of brain power, animated face, with great refinement and sensitiveness; the motive, or sanguine, strong muscular power, lively spirits, and often red or light-chestnut hair, and bony framework; the vital, or lymphatic, show vitality, or dependence upon the two great cavities—the thorax and abdomen—on which depend the heart and lungs for respiration and circulation; the abdomen, the assimilation of nourishment. This temperament shows plumpness, light hair, ruddiness of countenance. When the abdominal organs predominate there is more tendency to the lymphatic temperament, which generally shows a softness of muscular force, pale complexion, and round form, languid actions, and slowness of circulation, and the brain works slowly under this temperament.

(e) Mental-motive; mental-vital; vital-mental, etc.

(f) Very considerably.

(g) Yes; and great care must be taken in exercising them.

(h) By causing some to work more actively than others, and by retarding the activity of the mental powers.

Photo by George Rockwood.
An Illustration of the Motive Temperament.

For two persons of the same size may work differently under different temperaments—for instance, a large brain, under a lymphatic, or inactive vital temperament, will not work so well for any length of time as a smaller brain with a nervous, or sanguine, temperament.

(i) First, bones (support); second, ligaments (connections); third, muscles (bundles).

(j) First, the lymphatics (lymph); second, the blood-vessels (tubes); third, the glands (filters).

(k) First, the organs of Sense (which give impressions); second, the cerebrum (oval mass); third, the cerebellum (nerve-centre).

(l) Yes.

(m) The Roman may be considered to have the motive (the mental gaining the ascendancy in a large number).

(n) The Greek.—The mental temperament, with some modification.

(o) The Jew.—Predominance of the bilious, or vital.

(p) The German.—Strong degree of the sanguine-vital, with a combination of physical strength and mental ingenuity. The German, by nature, is slow; is an inventor, investigator, and thinker.

(q) The Scandinavian and Dane have the sanguine-motive temperament; are quicker than the Germans, with combination of vital temperament.

(r) The Englishman.—Vital temperament is the national temperament, the exceptions being a mental predominance, the result of high culture, or a lymphatic tendency caused by a moist climate; is prudent and reserved.

(s) The American.—Motive, or mental-motive; is active, intuitive, and generous, and a lover of locomotion.

(t) The Scotchman.—Temperament, motive, with a combination of the sanguine, or mental-motive; in the educated classes, cautious, conscientious, and persevering.

(u) The Irishman.—Predominance of the vital temperament; ardent, excitable, and witty.

(v) The Frenchman has a bilious, fibrous, mental temperament, with a combination of the sanguine, sufficient to give vivacity, versatility, brilliancy, and cleverness. He has the energy of the motive, but not its steadfastness and persistence.

An Illustration of the Vital Temperament—a round, plump, rosy, happy face.

(w) The Italian.—Mental temperament. The finest examples of culture, beauty, and taste.

(x) The Spaniard.—Combination of bilious-vital, which shows in his character, which is firm, self-reliant, proud, and grave.

(y) The Russian.—Temperament is the vital, or, in the

higher classes, mental-vital, with a combination of the motive, to give great toughness and endurance of constitution. He is noted for breadth of all the basilar organs, and hence is broad-headed.

(z) The temperaments of the lower animals are as follows: The tiger and wolf are carnivorous, blood-thirsty, cruel, and cunning, and have the motive temperament. The bear, not being exclusively a flesh-eater, is fond of fruits and honey, and has the motive-vital temperament. The lion has the motive-mental temperament, on account of his intelligence. The fox is the same as the lion. The deer and antelope are grass-eaters and herbivorous, and have the mental, or nervous, temperament. The beaver and woodchuck have the vital temperament. Birds—eagles, hawks, owls, night-hawks—have the motive temperament; the wild pigeon, quail, and grouse, vital temperament. The horse has the motive, and in some cases motive and vital. Domestic cattle have the vital; the Jersey, vital-mental. Sheep and hogs have the vital. The dog has a great variety; as the mastiff, powerful in muscle, motive temperament; the bull dog, motive-vital temperament; the greyhound, the mental temperament.

CHAPTER V.

THE EXECUTIVE GROUP—"I WANT."

The Selfish Propensities.

The faculties that come under this group are: Alimentiveness—I want to eat; Vitativeness—I want to live; Acquisitiveness—I want to possess; Destructiveness—I want to work; Combativeness—I want to overcome; Secretiveness—I want to secrete.

(a) The selfish propensities. (b) Why so called? (c) Why do we need the selfish faculties? (d) What faculties come under this group?

Let us learn something about (a) the selfish propensities to-day.

(b) I can hear some of you ask, Why are some of our faculties called selfish? Well, my dears, they are called selfish because of their self-protecting propensities. They make us conscious of our own wants and needs, and incline us to watch over the necessities of the body. Your bodies need nutriment, clothing, shelter; they secure them for you. You need protection against the various accidents that threaten your safety; they give you that protection. You have difficulties to overcome in order to be happy; these they master. You will understand by this explanation that they are important qualities in your characters; yet they need careful training and guiding to prevent them from becoming perverted. Boys

and girls who have no loving parents to discipline these faculties often begin early to get into bad ways, and are easily led into faults of all sorts—such as gluttony, theft, cunning, suspicion, cowardice, anger, revenge, malice, cruelty, drunkenness, and murder. I hope all of you to whom I am talking now have these selfish propensities well under control.

(c) We need all the selfish faculties: Combativeness and Destructiveness to give us energy, to help us to overcome all difficulties, to give us true courage; Acquisitiveness and Alimentiveness, one to procure us food and the other to induce us to eat it when obtained; Secretiveness to enable us to put a guard on our words and actions—yet we should not use these different organs to fight, to contend, or to kill; to hoard money, to become gluttonous, or to deceive.

(d) And now you are impatient, I can see, to know what these faculties are called? Well! they are Combativeness, Vitativeness, Destructiveness, Alimentiveness, Acquisitiveness, and Secretiveness, "long words," as Tom says. Yes, they appear so at first, but they are very easily understood when they are pulled to pieces. Let us take the first one that develops itself in babyhood, the one we have all shown at the very threshold of our existence. I refer to

ALIMENTIVENESS.

"*Live not to eat; but eat to live.*"

We will study it first on that account. No book on mental science has treated the subject of child-development from the incipient manifestation of the faculties, but by doing so in the present work we start with the infant mind from the commencement.

Photo by George Rockwood.

An Illustration of Alimentiveness. The above portrait shows many things; among them is large Alimentiveness.

For Teachers.

DEFINITION.

Alimentiveness, sense of hunger and thirst; desire to eat and drink, and to gratify the appetite.

LOCATION.

The organ is located in the lowest extremities of the middle temporal convolution, a little below and just in front of Destructiveness, beneath the anterior portion of the temporal bone.

DIVISIONS.

Alimentiveness is divided into two parts: the back part of the organ gives a preference for solid food; the front part of the organ gives thirst and a preference for liquids. Alimentiveness is also localized by Dr. Ferrier as the gustatory centre, affecting the muscles of the cheek, tongue, and jaw. It was one of the first that was discovered and localized.

The Physiognomical Sign is found midway on the line drawn from the lower lobe of the ear to the outer curve of the lip, and produces a fulness in the centre of the cheek when prominently developed.

For Children.—Questions on Alimentiveness, or Ernährungs-Sinn.

[Localized by G. Combe and Drs. Hoppe and Crook.]

(a) What is the definition? (b) Location? (c) Its natural language? (d) Its necessity? (e) Its abuse? (f) Why must this faculty be restrained within certain limits? (g) Why must this faculty be cultivated when small? (h) The appetite and taste for smoking and drinking? (i) True enjoyment for food when the appetite is not perverted? (j) Habits of children when young in regard to eating and drinking?

Answers.

DEFINITION.

(a) The definition of this faculty is to ask for food—solids and liquids. It gives the appetite to eat, and when unrestrained leads to gluttony.

(b) The location of Alimentiveness is situated immediately in front of Destructiveness, on each side of the head.

(c) Its natural language in children is, What are we going to have for dinner, mother? This faculty always makes them punctual at meal-time, even if they are late for everything else in the day.

(d) It is necessary and right for you all to have good, healthy appetites, and it is pleasant for you to enjoy your food, for were it not so, many would forget to attend to their meals properly, and would not take sufficient food to build up their bodies to be strong and healthy.

(e) To avoid its abuse young children must learn, as one of their first lessons, when they have eaten enough, and never eat because a thing is offered to them, if they have taken sufficient. If you do not early deny yourselves in habits of eating, and divide your apples and grapes with your little friends, you will grow up selfish, and excite the faculty so much that you will be in danger of perverting your appetite to gluttony, and perhaps to intoxication.

(f) When too active this faculty must be restrained; for if allowed to have its own likes and dislikes consulted in everything at the table, the natural appetite becomes perverted, and is the cause of much disease, throwing the digestive organs out of order, making impure blood, and disturbing the operations of the mind. It is the cause of untold misery and unhappiness; it is only content with strongly seasoned foods and drinks, and leads to gluttony, greediness, and drunkenness.

(g) When children have small appetites there is an indifference to food, and they eat only as a matter of necessity, and do not think or count much of a forthcoming

repast, and never eat with a relish. It is necessary to cultivate a desire for a proper amount of food according to the daily wear, tear, and waste going on. The greater the exertion, of either mind or body, the greater must be the supply. Noisy children are more the rule than the exception; hence their activity gives them appetites that often surprise older people. Sedentary habits cause less waste; therefore this must be taken into account when the appetite is large, and be restrained; but many persons do not eat enough to keep up their vitality.

(h) Does this faculty affect the tastes for drinking and smoking? It does; and boys and girls ought to be very careful when they are forming their tastes not to cultivate the liking for wines by draining their parents' glasses, as some children do. I am going to ask you to think seriously over this matter. Girls, you should not encourage your brothers to smoke because you think it is a manly habit. This present generation will seriously injure itself by the quantity of tobacco it consumes daily. Boys, do without smoking, even if it costs you some self-denial, and say, "No," when asked to have a cigar.

(i) In a healthy state children should enjoy their meals, and should eat heartily and regularly of simple food and pure drinks.

(j) Remember, children, that habits are easily formed, but with difficulty broken; so endeavor to keep your appetite in a purely normal condition, and you will have less disease, less pain, and fewer mental as well as physical disorders. Direction, Organ, and Definition for each faculty.

VITATIVENESS.

"*Life is real, life is earnest*
And the grave is not its goal."—LONGFELLOW.

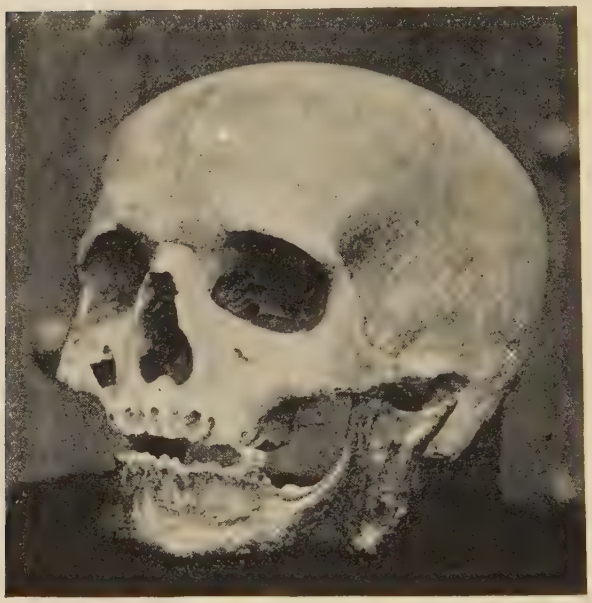


Photo. by George Rockwood.

An Illustration of Vitativeness. The Faculty is largely represented in the portrait of the above skull.

FOR TEACHERS.

DEFINITION.

Vitativeness, love of life and dread of death and annihilation; tenacity of life; enjoyment of existence.

LOCATION.

The organ is located at the inferior angle of the third temporal convolution, posterior to the mastoid process.

The Physiognomical Sign is found in the fulness of the cheek just below the lower lobe of the ear; in the lower lobe of the ear; in the strong, powerful nose, and in the long, broad chin.

FOR CHILDREN.—QUESTIONS ON VITATIVENESS, OR LEBENSLUST.

[Held by Gall as Probable; localized by Dr. Andrew Combe.]

(a) What is its definition? (b) Location? (c) Its natural language? (d) Its necessity?

ANSWERS.

(a) This is the second faculty that manifests in childhood. The first one declares that it wishes to gratify its desire for food—or "I want to eat!" Vitativeness has an equally important demand to add to that, namely, "I want to eat to live"; therefore Vitativeness. Before the child can talk comes the instinct of this faculty, "I want to live." All a little baby seems to think about for the first few weeks is eating and living. The latter is sustained by the former, while the former enables the latter to gratify its natural desire "to live," its "love of life," its capacity to cling to life, even when sometimes alimentiveness is not able to secure the right kind of nourishment.

(b) Vitativeness is located behind the ear in the little fossæ or hollow close to the dividing membrane of the

large and small brain. It is influenced largely by the two faculties that lie above and in front of it; namely, Combativeness and Destructiveness.

(c) Its natural language is strongly expressed in its fight for life and in its capacity to weather the many baby illnesses and its determination to live, in spite of the paregoric, castor oil, and brandy that are often dropped down its little infant throat. If we could only properly understand baby language for the first year, we should hear pathetic sentences like these: "Please do not add to my misery by giving me all those nasty things which even you would not take." "I want to live, and milk is my natural food, not cake, sweets, tea, etc., etc."

(d) This faculty is of vital importance, and a necessity to life. Many weak children have struggled through childhood by possessing this faculty. And many frail men and women outlive the strong and robust because of their tenacity and hold on life. All should cultivate this faculty so as to make the best and most of life. Many crave life on the point of losing it, yet fail to take care of it when they have it. Dear children, prize it while you have it and avoid, as far as possible, every interference with it.

ACQUISITIVENESS.

"*Fortune, men say, doth give too much to many,*
But yet she never gave enough to any."—HARRINGTON.

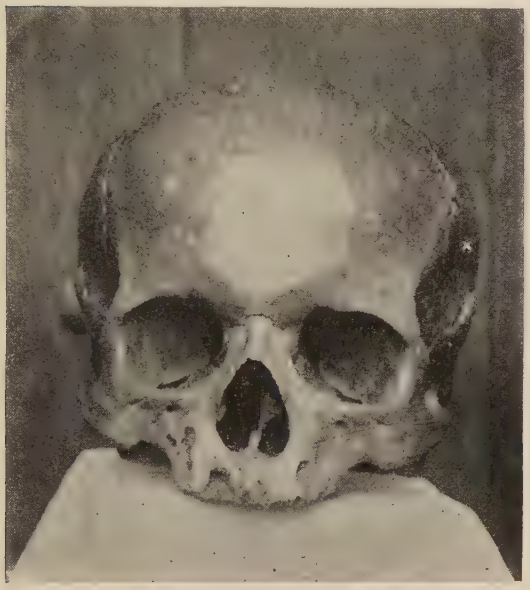


Photo. by George Rockwood.

An Illustration of Acquisitiveness. This faculty is largely represented in the above portrait.

FOR TEACHERS.

DEFINITION.

Acquisitiveness, sense of property, economy, desire to accumulate, provide for the future, to trade, to hoard and possess.

LOCATION.

This organ is located in the anterior part of the superior temporal convolution and the ascending frontal convolution, and crossed by the Sylvian fissure, under the temporal and parietal bones, an inch in front of Secretiveness and above Alimentiveness.

DIVISION.

Acquisitiveness is divided into three parts: the front part gives power to acquire; the middle part, saving; the posterior part, hoarding.

The Physiognomical Sign is found on each side of the nose, just above the wings of the nostril.

This is the third faculty that shows a development in the child. The hand is put out to "hold" or "get." "I want to have" comes after the impulse to eat and live.

For Children.—Questions on Acquisitiveness, Eigenthüm-Sinn.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How do boys and girls show this faculty? (d) How does a miser show it? (e) How do parents show it? (f) What kinds of Acquisitiveness are right and must be cultivated? (g) What kinds must be restrained? (h) Why must children restrain this faculty? (i) Why must this faculty be cultivated when very small? (j) What is the perverted language of this faculty?

Answers.

(a) Desire to acquire and lay up property, a disposition to hoard, to accumulate, collect, gather together, and economize.

(b) Just above Alimentiveness and part of Destructiveness.

(c) Children show this faculty by collecting stamps, coins, books, or playthings.

(d) A miser shows it by hoarding up money and worshipping it like a god, holding it too sacred to spend or give away.

(e) Parents show it by collecting means to support their families.

(f) Some kinds of Acquisitiveness are right. We need clothing, food, and shelter. These do not come to our hands without effort on our part; this Acquisitiveness sees to and does for us. It, therefore, disposes us to labor for the purpose of getting, to save, and to acquire. It is right for us all to economize, and not waste anything; and it is also right for us to acquire instruction and books for knowledge.

(g) That kind of Acquisitiveness that needs restraining is the kind which makes children covet and take things belonging to their mates. A child may often steal through the over-exercise of this faculty and a desire to possess what it sees others have; but it may feel so worried by its conscience for having done the thing that it will openly confess the action and beg to be forgiven.

(h) Little children, you must guard against exercising this faculty too much, and content yourselves with what you have, and be willing to share your playthings and divide your sweets with your schoolmates, and avoid

stinginess and a hoarding disposition; yet do not be wasteful or squander money foolishly. When this faculty is large the person knows the value of property, and neither wastes nor squanders it, but puts it to good use; is economical and disposed to provide for the future, and knows how to make the most of things.

(i) Without sufficient of this faculty a person allows others to take undue advantage of him and his circumstances, and lacks the necessary appreciation of property, and is not industrious to gain, or disposed to save: has no engrossing sense of what belongs to him, and must endeavor to think more of his own interests.

(j) The depraved exercise of this faculty makes a boy over-ready to trade, grasp, hoard; he is too avaricious, penurious, miserly, and thievish. It gives the desire to have at any risk, to possess by one means or another, and to disregard the claims of others. All of you must avoid the extreme exercise of this faculty; but you should have sufficient to properly look after your own affairs.

DESTRUCTIVENESS.

"*Hard work is wholesome beyond all doubt.*"—LOWELL.

Photo. by George Rockwood.

An Illustration of Destructiveness—Samuel G. Williams, aged eight and one-half months. The faculty is well represented in the above picture.

FOR TEACHERS.

DEFINITION.

Destructiveness, executiveness; energy; force; severity; thoroughness; hardness of mind; power to endure; hatred; extermination.

LOCATION.

The organ is located in the third or inferior temporal convolution, above the top of the ears.

DIVISION.

Destructiveness is divided into two parts: extermina-

tion the back portion of the organ; and executiveness the front part.

The Physiognomical Sign is found in the Roman and commanding nose and a line above the outer corner of the lips.

For Children.—Questions on Destructiveness or Rastlosigkeit, Würg-Sinn.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How does this faculty express itself in children? (d) How do animals show this faculty, and what is the difference in the shape of their heads? (e) Do soldiers show this faculty even without a love of their country? (f) Should not children early learn to curb their angry passions? (g) How can this faculty be perverted? (h) How is its deficiency shown? (i) Is this a necessary faculty?

Answers.

(a) The definition of this organ is usually termed resolution, cruelty, a love to destroy, and desire to kill; but we think a better name for it, when under control, would be energy, executiveness, spirit, pluck, and endurance.

(b) The organ is situated over the ears, on each side of the head, and gives breadth to the side of the head.

(c) This faculty shows itself in children by making them resolute in obtaining their own way; it makes them desirous to be doing something, no matter what, so long as they are employed. It also makes some cruel and desirous of seeing blood shed, and so they stick pins through flies and butterflies; they worry the cats, they

tease the dogs and pigs, they throw stones at the birds, they play with the fish, and hurt the helpless, innocent animals.

(d) Animals show this faculty by tearing each other into pieces, and destroying anything in their way. It makes dogs fight, while Combativeness makes them only bark. Examine the heads of animals and you will find all the fiercer kinds—lions, tigers, and bears—possess broad heads from ear to ear; while the docile and tame animals—such as cats, dogs, sheep—have narrow heads below Secretiveness.

(e) Soldiers have large Destructiveness, or they could not take any pleasure in going to battle. It is not altogether a patriotic love that makes a man defend his country in war; there must be a plucky, executive element in their natures that leads the boy to say, "I want to be a soldier."

(f) Children should try to curb their angry tempers and passions; for if we endeavor to train animals, and tame their tempers, how much more necessary that little children should be helped to curb their feelings and inclination to be naughty and disobedient. "Some of you must cultivate more kindness and forgiveness than others, because the inclination to do wrong is stronger than in others. You must not, however, think that because you have certain phrenological inclinations that need curbing you are not responsible for your actions; you are learning about your characters now, so that you may improve and discipline them. Some need to restrain one faculty, and some just the opposite; but, as we are none of us perfect, we all must be willing to fight with our weaknesses as long as we live."

(g) This faculty is easily perverted, when large to be-

gin with, by children being allowed to get angry at play and to strike one another, or to tease their mates by knocking their blocks down just as the top has been finished, or by throwing a little fellow's ball into a tree for it to lodge in the leaves. Think when tempted to do anything of this kind in a naughty spirit whether any of you would enjoy the fun if you were the one to be teased. It leads to cruelty and revenge, hard-heartedness, harshness, and takes delight in scenes of destruction when not under proper control.

(h) Are we to understand that this is a bad organ to have? Certainly not, all our faculties are necessary to our well-being. With a deficiency of Destructiveness a child is wanting in energy, force, or efficiency; without this faculty we should have had no steamboats or railways. Without it a person prefers peace, ease, and quiet, and does not wish to struggle with physical difficulties, even to keep hold of personal rights, but yields to trouble, trials, and the will of others, especially when leaving home for the first time.

(i) It is a necessary faculty in many ways; it helped little Maggie to be courageous, and set her to work to extinguish the flames of her own dress instead of running out of doors to cry fire. One must have the courage to defend one's self and others, as well as the thought to do it. Two boys were playing with their father's fish-line on a rock which projected into the river; both boys wanted the same line, as it had the best fish-hook. As they quarrelled about it the younger boy, Freddie, fell into the water, which was deep just by the rock. Robert was not courageous enough to rescue his little brother, though he could swim, so he ran up the bank and called for help; but Freddy had sunk once before anyone was

attracted by the voice of distress. When, finally, several men ran to the spot, one, the quickest of them, dashed off his coat and plunged into the water, and caught the little fellow just as he was rising the second time. Robert was short of courage, but he possessed large Destructiveness, which made him want to fight for the best line. How much better if they both had loved each other sufficiently to curb their Destructiveness and give up to each other! Boys need this faculty to secure from the soil and the rocks the materials indispensable to their physical well-being; hence this faculty, amidst the many trials and troubles of life, requires endurance, and this organ gives it. This faculty will help you as men and women to grapple with the unyielding nature of things with ceaseless energy, and force an unwilling compliance with your demands. Deserts are to be made productive; mountain-paths to be made smooth lands, and be protected from the sea; wildernesses to be cleared of their forests; the elements to be subdued and made subject to the requirements of man. These things, my boys, you cannot do, without large well-balanced Destructiveness.

COMBATIVENESS.

"*If you're mistaken, own up and don't fight.*"—LOWELL.

"*Grit is the grain of character. It may generally be described as heroism materialized, spirit and will thrust into heart, brain and backbone so as to form part of the physical substance of man.*"—E. P WHIPPLE.

An Illustration of Combativeness. The portrait of this little girl indicates a large amount of the faculty of Combativeness. She will make her way in the world.

FOR TEACHERS.

DEFINITION.

Combativeness, courage, boldness; defence; defiance; resistance; spirit of opposition; resolution; self-protection; love of debate.

LOCATION.

The organ is located in the posterior part of the superior and second temporal convolution, an inch behind Destructiveness and Secretiveness.

DIVISION.

Combativeness is divided into three parts: defiance, the lower and back portion; defence, the front portion; courage, the upper portion.

The Physiognomical Sign is found in a long jaw, and in a line half way between the ear and the nose.

For Children.—Questions on Combativeness, or Muth, Rauf-Sinn, Selbstvertheidigung.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) Its natural language when large. (d) Its natural language when small.

Answers.

(a) Take away the last two syllables, and everyone of you is old enough to know what the remainder means. It is sometimes defined as a bold, a defiant, a defensive spirit; it means, however, more than that. It makes a note of difficulties, impediments, and obstacles; it resists and overcomes them. It gives the disposition to oppose, resent, defy, and to dare. It makes you boys courageous and brave in the hour of danger. It gave Willie courage to go into a thick and dangerous wood, where his little sister had wandered away from her nurse and was lost. The nurse was too frightened to go into

the wood alone; but Willie, though young, fired her courage by saying he would go. He possessed true courage, as well as love for his sister.

(b) This faculty is situated behind the top of the ear, on both sides of the head.

(c) When large it will make you bold to do your duty, no matter how unpleasant the circumstances, and exceedingly zealous in the defence of self, of rights, of your friends, of your country. You will find this faculty large among your mates when you see them take a pleasure in difficulties, and show a love to contend, oppose, and overcome anything in the direct way to their own wishes or ends. With it large, Columbus braved the unknown seas in search of a new country, and would not give up, though all on board the vessel besought him to return home. Some show this faculty in a contradictory spirit. Some little girls are very troublesome to their mothers. When they are asked to sew they want to go out and play; when they are sent on an errand they pout, and want to stay in and read a story-book. Now they wouldn't have thought of the play or the book if something else had not been suggested, or if they had not shown out their combative spirit.

(d) When small the language of this faculty is always saying at school, "I can't do this difficult lesson." Without this faculty the boy gives up without trying much to overcome the difficulty, and never courts a tough job, but goes a long way round to avoid it. All members of the Society for the Prevention of Cruelty to Animals have rather a small development of this faculty, yet, with firmness, and a love for animals, are firm in carrying out their principles for peace, and hate cruelty of all kinds. With it small a boy does not resist encroachments or defy

opposition, but tamely yields to circumstances, seldom, however, throwing the apple of discord into the lap of peace.

SECRETIVENESS.

"*Thy precious secrets to no other lend.*"

An Illustration of Secretiveness. This faculty is well represented in the above portrait, and is seen to give fulness above the ear.

For Teachers.

DEFINITION.

Secretiveness, concealment; policy; management; tact; reserve; evasion; the conservative restraining power.

LOCATION.

The organ is located in the superior temporo-sphenoidal convolution; above Destructiveness, below Cautiousness, between Acquisitiveness and Combativeness.

DIVISION.

Secretiveness is divided into three parts: Reserve, the front part; policy, the middle portion; evasion, the back part.

The Physiognomical Sign is in well closed lips.

For Children.—Questions on Secretiveness, or List Schlaukeit, Klugheit.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How do children show it? (d) What animals show the secretive element the most? (e) Is this faculty shown out by actions as well as by words? (f) Do not many use this faculty who do not intend to deceive? (g) What will this faculty lead to if not restrained? (h) Why is it necessary to cultivate this faculty when small? (i) Conclusion of our first group. What next?

Answers.

(a) The desire to hide, secrete, to evade, or to deceive. It gives the power to put due restraint upon words and actions, thoughts, and feelings. It gives tact in managing, policy, diplomacy, and artfulness.

(b) Secretiveness is located above Destructiveness, on both sides of the head.

(c) It will only be necessary to remind you children

how you show this faculty of your minds in order for you to understand me. Minnie was very anxious to tell Jack something, but she said, "You will be sure not to tell, won't you?" Jack promised, so the secret was told. Lucy has large Secretiveness, and always looks round to see if anyone is watching her. Tom is a truthful boy and means to do right; but when pressed to tell particulars about things he does not want to explain, he evades the truth without telling the whole story. Many tricks are done at school, when the teachers are not looking, through the aid of Secretiveness. Many children think they are not doing wrong so long as they are not found out.

(d) The cat, the fox, the squirrel, the spider, and the opossum, are all known for their cunning and shyness, also for their deceitfulness.

(e) Yes, actions sometimes speak louder than words, and deceive and imply as much, if not more, than untruthful words.

(f) Yes, many use this faculty as a convenience. A mistress will tell her maid to say she is "out," while she slips into the garden, if she does not want to see a caller. She does not want to say she will not see the caller, so she excuses herself. The mistress does not always gain much, for the maid is sometimes more innocent than she gets credit for, as she goes to the door and says, "Please, the mistress says she's out."

(g) When large and unrestrained this faculty gives the power to possess without divulging to others. Its perversion leads to slyness, cunning, duplicity, deceit, falseness, manœuvring, and treachery. The children did not mean to deceive, but they were not truthful; they acted a character they were not in reality. As they be-

come men and women they will take their deception into their homes, into their business pursuits. It is time to restrain this faculty when inclined to make a wrong statement, if an honest disposition is cherished. Cultivate more frankness, candor, open-heartedness, and a single eye to truth. It is not necessary to disclose all our plans to others, nor express all our impressions or ideas, or we shall offend more than please our friends.

(h) Those who are deficient of it are open and transparent, and have no power to conceal any undertaking or movement, no matter who is present. They say and do and act out their characters and give expression to their minds, often to the discomfort of those around them.

(i) And now, children, we have come to the end of our first group, and have learned to understand that certain portions of our brains give us feelings to protect ourselves and look after the wants of our bodies, if we rightly use them. We shall next study the perceptive faculties.

CHAPTER VI.

PERCEPTIVE, OBSERVING, AND KNOWING GROUP.

Twelve faculties comprise this group. Try and commit them to memory. They are: Individuality, Form, Size, Weight, Color, Order, Calculation, Locality, Eventuality, Time, Tune, and Language. This group, you will soon find, helps us to see, watch, remember anecdotes and facts, measure and weigh by mental calculation, arrange, classify, enumerate, and locate things; also to remember the time and harmony of musical sounds, as well as the time of day.

INDIVIDUALITY.

"*Hail, Memory, hail! in thy exhaustless mine,*
From age to age unnumbered treasures shine!
Thought and her shadowy brood thy call obey,
And Place and Time are subject to thy sway,
Thy pleasures most we feel when most alone,
The only pleasure we can call our own."

—Samuel Rogers.

For Teachers.

DEFINITION.

Individuality, power of observation; desire to see, to examine and identify objects in nature; ideas, and their individual existence and usefulness.

LOCATION.

The organ is located in the superior or first frontal convolution.

DIVISION.

Individuality is divided into two parts: the lower portion gives physical observation; and the upper part gives mental observation.

The Physiognomical Sign is breadth of forehead in the centre between the eyes.

For Children.—Questions on Individuality, or Sachgadächtniss—"I Want to See."

(a) What is its definition? (b) What is its location? (c) How do girls and boys express it? (d) Why is this faculty generally large in children? (e) How do some show a deficiency of it? (f) How must it be cultivated? (g) How does it work with the other faculties?

Answers.

(a) Individuality is observation, desire to see, identify, and examine objects and ideas.

(b) Very central, being at the root of the nose, between the eyebrows, and is easily found.

(c) This is one of the first faculties a child uses. You girls and boys have many times watched your baby brothers and sisters show their first sign of intelligence, when they first begin to notice mother and the light in the room; and then later on picture-books and objects about the place and out of doors. There is scarcely any faculty you all delight in gratifying more than this one.

As you learn to talk properly, you know how tempted you are to ask questions and talk about what you see; but, first of all, you want to see and experience for yourselves. I fear, at times, you become very meddlesome and inquisitive, and say nearly every two minutes of the day, "Mamma, I want to see; mamma, I want to see."

Photo. by George Rockwood.
An illustration of Individuality.

(d) This faculty is large in most of you. You all know how much faster you learn when you see anything illustrated than when it is simply explained; hence you cultivate this quality of your minds very early; and through the activity of it you encourage the exercise of others, as we shall see further on.

(e) Tom shows a deficiency of it. He always goes headlong over chairs and hassocks, and seldom looks where he goes; hence he does not gain information or facts about anything he passes, and misses all the beauties of nature. If he sees, he does not look with any definiteness or with any desire to remember. This is not right."

" (f) Everyone of you boys and girls must cultivate Individuality when it is small, by paying attention to works of various kinds, either mechanical, ornamental, or artistic. In exhibitions and museums you can learn a great deal if you try. You can learn in nature all the various kinds of trees, birds, animals of all descriptions, scenery of every kind, flat or hilly, rocky or wooded; and people of all tribes, colors, and classes."

(g) This faculty works with each one as it is needed. For instance, with Constructiveness it looks to how a thing is made and put together. With Ideality it looks especially at beautiful things, and points out special types of loveliness. With Order it looks at the arrangement of things, and so on; but you must study how each organ is affected in its own peculiar way by this one.

FORM.

"*Your face, my Thane, is as a book, where men*
May read strange matters: to beguile the time,
Look like the time."—SHAKESPEARE.

An Illustration of Form. The organ of form is largely developed in the above illustration.

FOR TEACHERS.

DEFINITION.

Form, observation of shape, outline and configuration; recollection of faces, family resemblances and expressions. This faculty aids in reading, spelling, and committing to memory.

LOCATION.

In the superior or first frontal convolution upon the two sides of the crista galli, and, when large, causes great breadth between the eyes.

The Physiognomical Sign is found in the inner angle of the eye.

For Children.—Questions on Form, or Personen-Sinn.

[Localized by Dr. Gall.]

(a) What is its definition? (b) What is its location? (c) What is its natural expression? (d) What practical use can it be put to? (e) Who were known to have this faculty large? (f) What did Gall say of this organ?

Answers.

(a) Perception of shapes, recollection of outlines, countenances, and expressions.

(b) Between the eyes; the first organ situated on the arch of the eye.

(c) Its natural expression is to notice the shape and character of everything. It sees that no two leaves are exactly alike; that persons are distinguished from each other by their various features; that houses are to be recognized by their difference in forms and outlines. It helps you to learn to read; and is a great assistance in enabling you to remember the forms of words in spelling.

(d) It can be put to practical use in drawing correctly. It gives you the power to remember, word for word, pages after pages of poetry. You can repeat your lessons much more easily when you cultivate this organ, or when "cramming" for some special examination. It shows you its practical use when you are modelling statues, or, with your Constructiveness, designing patterns, pictures, etc. John has it very large, and hence finds no difficulty in reproducing on paper, or describing, with the use of

language, what he has seen. He forms a great contrast to the boy sitting next him, who needs to cultivate the organ; he, it is curious to note, remembers the number and locality of a thing, but carries a poor idea of its form. Now, children, look at each other's foreheads, and see if I am not correct; by so doing, you will exercise your Individuality first, and then your organ of Form by examining closely the outline or shape of the head.

(e) Who can tell me what characters in history have shown it large, and who have been wanting in it? "Michael Angelo," says a chorus of voices. "Rubens," says another. "The Chinese must have it large, as theirs is such a difficult language to remember," says John. "Cuvier," says Edith, "had the organ remarkably developed, for he could remember the bone of any kind of animal, or its form, after seeing it once." "Gall," it is said, "had the faculty very small," says Elsie. "Many animals show a wonderful development of Form, in remembering their masters and their homes," says George.

(f) And now I am going to tell you what Gall once said about this faculty. It was one of the first organs of the mind he discovered, and he called it Knowledge of Persons. He was so conscious of a want of the organ himself that he often remarked he could not recall the faces of people he had been talking with when he met them a short time afterward. Phrenology, physiology, botany, geology, all help toward the cultivation of this and its kindred perceptive faculties.

SIZE.

"*A man may be known by his look; and one that hath understanding by his countenance when thou meetest him.*"—Ecclu. xix. 29.

Photo. by George Rockwood.
An Illustration of Size.

For Teachers.

DEFINITION.

Size, cognizance of bulk, proportion, parallels, distances; perspective; ability to measure by the eye, and to see the fitness and adaptation of parts.

LOCATION.

In the first frontal convolution, on each side of the root of the nose.

The Physiognomical Sign is found on the curve of the brow.

FOR CHILDREN.—QUESTIONS ON SIZE, OR MASS-SINN.

[Localized by Dr. Spurzheim.]

(a) What is the definition of size? (b) What is its location? (c) What is its expression? (d) How do some of the other faculties act with it? (e) Who show it to the best advantage? (f) Is it necessary to cultivate this faculty?

ANSWERS.

(a) The function of Size is distinct from Form, though some may think that Form and Size are the same thing. It gives the power to remember the height, the magnitude, the length, the proportion, the breadth, and correct distance between one thing and another.

(b) Between Form and Weight, on the arch of the eyebrow.

(c) We have just learned that Form helps us to remember the shapes of things; by Size we learn how much one thing varies from another in its dimensions and proportions. With you children, the organ expresses itself very often in the division of your presents, especially if the organ of Benevolence is not particularly active. Some of you have the organ so fully developed that you can measure accurately by the eye.

(d) With Sublimity large, Size often inclines you to exaggerate a story or incident; and with large imagination you see a thing to be much larger than it really is.

(e) The organ was notably large in all our great astronomers, as in Herschel; also in Newton, and all accurate draughtsmen, designers, and scenery-painters; and artists who draw from nature, not from their imagination. Builders, engineers, jewellers, and architects also show a large degree of Size; so do men who have much to do with machinery.

(f) Yes, you must cultivate and exercise this organ all you can.

WEIGHT.

"*Be sure of your facts, your measures, and your weight.*"—LOWELL.

Photo. by George Rockwood.
An Illustration of Weight.

FOR TEACHERS.

DEFINITION.

Perception of the laws of gravity and motion; power to weigh by the eye and hand; to keep a correct balance

when walking; grace in dancing, equilibrium in cycling; sense of force and resistence in machinery.

LOCATION.

In the second frontal convolution; on the arch of the eyebrow between Size and Color.

The Physiognomical Sign is found in the curve of the eyebrow.

FOR CHILDREN.—QUESTIONS ON WEIGHT, OR GEWICHT-SINN.

[Localized by Dr. Spurzheim.]

(a) What is the definition of this faculty? (b) What is its location? (c) Who was instrumental in its discovery? (d) When large what appearance does it give? (e) Who have it largely developed? (f) Do animals show it? (g) What power in nature corresponds with it? (h) How do little children show it first? (i) Do you ever show an excess of it? (j) Why is it necessary to cultivate it? (k) Did Brunel have it large? (l) What did he do? (m) What did his son do?

ANSWERS.

DEFINITION.

(a) The power to balance and carry things with a steady hand.

LOCATION.

(b) To the Outward of Size, over each eye.

(c) It was Dr. Spurzheim who located it, by the aid of his large perceptive and reasoning faculties.

(d) When large it gives an overhanging of the eyebrow toward the centre.

(e) You will notice it largely developed in acrobats, who begin when very young to be trained so that they can do all kinds of difficult movements with grace and ease, and balance themselves in pyramidal forms; tight-rope walkers, like Blondin, who crossed the wonderful Falls of Niagara; men working on dangerous points of a building; sailor-boys, who run up the rigging like monkeys; and as large Weight prevents seasickness sailors are seldom troubled with it. Good dancers must have it large to blend their graceful movements without stepping on the toes of their partners. You will also find good skaters, easy riders, and graceful walkers show an unerring balancing power. Marksmen, ladder-climbers, blacksmiths, bagatelle and billiard players are noted for large Weight; and those who have to do with any kind of machinery in motion. Pianoforte-players, who excel in wonderful execution, need it to give true emphasis to their musical effects. The best sculptors have it large to give correctness and steadiness of hand. Good writers show it; so do etchers and designers. It is necessary in tennis and archery. To William Tell it meant a great deal; he knew if he missed his aim his dear little son's life was in peril; but his organ of Weight, together with courage, served him a good purpose, for you all remember how his arrow went straight into the apple instead of into his child's head (as Gesler thought it would).

(f) Many kinds of animals show it. I dare say every one of you could tell me a story about a favorite dog, monkey, or cat, that has been taught all kinds of tricks that require balancing power. Horses show a wonderful

difference in this respect. Take the circus horses, for example; watch them bend their bodies to the inside of the circle. It is curious to compare them with some horses you see, who appear to have very little, if any, control over their run or their walk.

(g) The law of gravitation keeps all things in their places; hence this law which governs nature corresponds with our mental law of Weight.

(h) Tiny children first show this faculty when, after creeping for some time on all-fours, they stand erect and walk into mother's arms. And what equals her look of pride when she makes her little one repeat his wonderful feat when father comes home from work!

(i) You show an excess of it when, with small Cautiousness, you attempt some very dangerous summit, or climb a high trapeze, or walk on the edge of a cliff.

(j) It is necessary, children, for you to cultivate this faculty in order to save yourselves from innumerable tumbles, falls, and accidents; do not run great risks in riding, walking, skating, or paddling your canoes in rough weather.

(k) Yes; Brunel had large Weight.

(l) He could not have built the Thames Tunnel unless he had been a very clever engineer; for such workers must have it largely developed, we have learned.

(m) His son built the wonderful steamer called the Great Eastern, which was first used to lay the Atlantic cable.

COLOR.

"*Parting day*
Dies like a dolphin, whom each pang imbues,
With a new color as it gasps away,
The last still loveliest, till—'tis gone—and all is gray."
—BYRON.

Photo. by George Rockwood.

An Illustration of Color.

For Teachers.

DEFINITION.

Color, perception and recollection of colors; judgment and delight in matching and arranging them; in knowing and remembering things by their color.

LOCATION.

In the second frontal convolution; on the arch of the eyebrow, between Weight and Order.

The Physiognomical Sign is found in the central arch of the eyebrow; it makes the arch almost cone shape when it is largely developed.

For Children.—Questions on Color, or Farben-Sinn.

[Localized by Dr. Gall.]

(a) What is the definition of this faculty? (b) Where is it located? (c) What singular proofs are there that it is small in some people? (d) In whom is it essential?

Answers.

(a) Color is the perception of shades, hues, and the power of remembering them; judgment in matching and arranging them.

(b) Next to Weight, and when large gives a roundness to the outer edge of the eyebrow.

(c) Many curious examples might be given of boys and girls who have been at a loss to distinguish the difference between red, blue, green, orange, or brown.

(d) It is particularly necessary to the successful painter, or any one who has to do with the mixing of paints. It is also necessary to the draper and his assistants, or else they cannot detect the variations in shades. To the child who has very little of this faculty all the beautiful combinations of colors in the garden, in the woods—everywhere, in fact, are almost lost, and things must seem a dull monotony. Let those of us who have the power to appreciate shades and tints rejoice, and always strive to use the faculty appropriately. Those who have it small must educate themselves to detect the different colors accurately.

ORDER.

"*The Heavens themselves, the planets, and this centre,*
Observe degree, priority, and place,
Insisture, course, proportion, season, form,
Office, and custom, in all line of order."—SHAKESPEARE.

Photo. by George Rockwood.

An Illustration of Order.

For Teachers.

DEFINITION.

Order; method; system; arrangement; neatness; desire to adapt means to ends; to lay out work, and work by rule.

LOCATION.

In the third frontal convolutions; at the arch of the eyebrow, at the external corner of the eye, between Color and Calculation.

DIVISION.

Order is divided into two parts: neatness, the inner portion; and system, the outer portion.

The Physiognomical Sign is found an inch from the outer corner of the eye.

For Children.—Questions on Order, or Ordnungs-Sinn.

[Localized by Dr. Spurzheim.]

(a) Definition. (b) Location. (c) Its natural language. (d) Who discovered it? (e) How does it assist the other faculties? (f) How do children show it when largely developed? (g) How do they show a want of it? (h) To whom is it a vital necessity? (i) Can you cultivate it? (j) Must it ever be restrained?

ANSWERS.

(a) Can any of you orderly and disorderly children define this faculty for me, and for the benefit of the class? "I rather think I can," answers Harry. "To me it means neatness, power to arrange, and shows system and method." That is right, my lad.

(b) Now, can any one tell me where it is located? "Next to Weight, on each arch of the eye, giving squareness to the edge of the brow," says Eleanor, quickly.

(c) Its natural language shows itself in laying plans for future work. It shows the use of putting things away in their proper places; it tells you, among other things, to cover your school-books neatly and securely.

(d) Did Gall, Spurzheim, or Combe, discover it first? "It is said that Spurzheim first made a definite note of his observations with regard to it; Gall had only a small development of it. That may partly account for his not discovering it before Spurzheim—his student." That may have something to do with it, Bertie, but we must all try and cultivate it in our own characters.

(e) How does it assist the other faculties? "I should say it works with Constructiveness, Form, etc., to make the builder; with Ideality, Imitation, to make the architect; with Acquisitiveness and Calculation, to give method in laying out money, and so on," Annie replied.

(f) Now I am going to tell you how some of you show it who have it large. First of all, you get up at a certain time, summer and winter; you study by rule; you eat your meals regularly; you go to bed within five minutes of the same time every night, when at home; you put everything in apple-pie order, so to speak, before you can think of resting quietly; you make all your plans a

day in advance; you are never in a hurry; are never thrown off your balance. One boy had the faculty so large that he contracted the habit of twirling his pencil through his button-hole, and to test him, one day his teacher borrowed his pencil just before the class began to say their lesson. When this boy was questioned, the teacher noticed him hunt for his pencil, and when he began to stammer out his answer the teacher returned his pencil, but advised him to break himself of the curious habit. There is a similar case, where the child always twisted a certain button when in his class; one day the button was gone from its place, and the lesson was forgotten in consequence. Children with large Order always know if their books or papers have been touched, for they remember wherever they have left them.

(g) Girls show it oftener than boys; but Florence is an example among you of a little girl who has very small Order, and I want you all to be on your guard against imitating her ways. She can never find her gloves, her umbrella, her slate, pencil, or handkerchief. She is always borrowing someone else's things, and, what is worse still, she seldom returns the things she borrows, so her friends do not like to lend her pencils, etc., and go without themselves. Therefore I am in hopes that by-and-by she will learn to be orderly. She misses a great deal because she does not set to work in a systematic way. I believe she is often unhappy because of the state of affairs around her, and I hope she will try hard before she is much older to overcome this serious fault."

(h) It is a vital necessity to almost every kind of work. You have often heard it said, " Order is Heaven's first law." The more you study nature the more you will find everything planned upon some great principle. In bot-

any and chemistry you have ample proof of this. Is it not wonderful how everything seems to have its time and season? The light and darkness succeed each other according to known laws; the tides ebb and flow year in and year out; the earth steadily revolves on its axis—and no effort of man can alter the systematic order of nature. The little fellow who thought that by firing his torpedo-pistol at one of the stars he could put out its light, found out his mistake in after years, if not then. I want you all to learn this lesson, on the necessity for order, as nothing is complete or perfect without it. Some of you will be farmers, mechanics, merchants, ministers, lawyers, speakers, politicians, writers, statesmen, teachers, and housekeepers. In each of these positions you will find a second Babel if you do not recognize the law of Order.

(i) Yes; by beginning at home and at school to have your things in their places, and never out of their places, except when you are using them. Be careful when you lend to get your things back again; be even more careful when you borrow that you give the articles back to the right owner. When you have to look for your things just before you go out you often become impatient and fretful, which might be avoided had you your hat on its peg, your gloves and tie in their drawer, your slippers on the proper shelf. The habits of your future manhood and womanhood are being formed, and I shall soon be able to predict what kind of homes and offices you will have, by the way you exercise this faculty of Order. So make haste to be wise. Just a word or two to those of you who are so excessively neat and particular that you believe things were only made to be looked at, and not knocked about.

(j) Never mind if grandpa sometimes upsets your tool-box for a nail, or if Bessie disturbs your last set of specimen butterflies; accidents will happen, and you notice them a great deal quicker than anyone else because of your excessive and over-active organ of Order. Aim at a happy medium.

CALCULATION.

"*The calculations of the counting-room involve consequences beyond the accumulation of wealth. They are made not merely in the actual necessities and artificial requirements of society, but they bring from strange lands, new objects for investigation, and suggestions which give encouragement to thought.*"—FREEMAN HUNT.

Photo. by George Rockwood.

An Illustration of Calculation.

For Teachers.

DEFINITION.

Calculation, quickness in figures; mental arithmetic; knowledge of numbers and their power in mathematics, in machinery, and in business estimates.

LOCATION.

In the lower or third frontal convolution; outward from Order, at the external termination of the arch of the eyebrow.

DIVISION.

Calculation is divided into two parts: the inner part gives the power of figures and quickness in computations; the outer part gives the power of making estimates.

The Physiognomical Sign is found on the outer corner of the brow; it lifts that part up and often rounds it out with unnatural fulness.

For Children.—Questions on Calculation, or Zahlen-Sinn.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) What is its natural language? (d) Tell me what nationalities show a peculiar development of this faculty. (e) Give me some example of those who have shown it large. (f) Could we do without this faculty?

DEFINITION.

(a) George, define this faculty, if you can. "It is the organ that gives the ability to reckon, count, add up figures quickly, and I have it very small, I fancy." Why so? "Because it is with the greatest difficulty that I can master my sums." The organ is not large, I can see.

(b) Can you tell me where the faculty is situated? "Just on the outer edge of the brow, on each side of the head, next to Order." Quite right; now you will be able to tell whether your mates have it.

(c) Its natural language begins to express itself very early. In fact, as soon as you begin to talk you also begin to notice the number of things around. You count the fingers on your hands; you count the people who pass along in the street; you ask numerous questions which call for the exercise of this faculty in answering them. All the pictures on the wall, the panes of glass in every window, are numbered by you in turn. You count the number of steps in each flight of stairs, and the distance in steps between your house and your friend's. Many and many a time you have counted the stars from your window. Some are almost idiotic in the way they take pleasure in simply adding things together; some will actually go to the trouble of adding up the number of weeks, days, hours, and minutes, to the holidays; others will count the number of stitches in the piece of work they have done in an hour.

(d) The Esquimaux show very little of this faculty, and have a peculiar way of counting when they have reached the number ten, after which they compound the numbers into one significant word. The negroes also are known to have but little of this faculty.

(e) Many examples among girls and boys are to be found who can calculate rapidly. It is found large in all astronomers and good financial, business, and commercial men. Napoleon had it very large; he was always conscious of the number of men he had in his army. Two boys started together in an arithmetic class, but the teacher soon noticed a marked difference in their abilities. James, the elder, added up a row of figures by simply casting his eye down the line. Robert was twice as long, and often forgot the numbers as he counted them, and had to begin over again. The teacher was puzzled at first, but after awhile found Robert constantly working out problems far in advance of his class. He was put in a higher class of mathematics, where he appeared in his right element. I mention this fact to show you that it requires different faculties to make a good arithmetician, and a good mathematician, and many confuse the two. When you come to study Causality, you will find that faculty aids greatly in all mental calculations—in algebra and geometry.

(f) No; we could not do without this faculty; affection alone will not help you to remember how many pets you have to feed and care for, or how many chickens you had in your last brood. What would you say if mother forgot to count you among her children when she was dividing something very nice. You would wish her Calculation were larger before she divided anything again. Habit and exercise are essential to the cultivation of this faculty of the mind; a full degree of which you must not fail to have.

LOCALITY.

"*When I was at home I was in a better place; but travellers must be content.*"—SHAKESPEARE.

"*Know thou most of the rooms of thy native country before thou goest over the threshold thereof.*"—FULLER.

Photo. by George Rockwood.

An Illustration of Locality.

FOR TEACHERS.

DEFINITION.

Locality, cognizance of place; memory of where things are seen; geographical talent; desire to travel, explore, and see new places; ability to find the way in a new town or city.

LOCATION.

In the middle, or second, frontal convolutions, between Weight and Causality.

DIVISIONS.

Locality is divided into two parts: the lower part gives a desire for exploration, and the upper part gives memory of localities.

The Physiognomical Sign is found in the wing of the nostril—discovery and love of travel in a line under the lip outward from the centre.

For Children.—Questions on Locality, or Ort-Sinn.

[Localized by Dr. Spurzheim.]

(a) Definition. (b) Location. (c) What is the function of this faculty? (d) Who shows this faculty largely developed? (e) How can it be cultivated? (f) How can it be restrained? (g) What animals have it large?

Answers.

(a) The definition of this faculty is easy to guess; it is the one that localizes things, and gives them definite places. It is the power that remembers places. It gives the desire to travel, explore, and go from place to place. It finds the correct way in a new town.

(b) It is situated directly above Size and Weight, and is a very prominent faculty in the perceptive group.

(c) Locality and Order are twin-sisters ; the one recognizes the necessity for a place, the other describes the place. Wherever we are, we realize that there is a place

for everything. Houses are located on the ground, while the stars and planets are located in the heavens; and Locality helps us to remember where we have seen them in the heavens. Locality helps also to make geography a reality; but far better is it when places of historical interest can be visited, as well as read about and found on the map. It has been called the pilot of the other faculties. It studies the compass, and never gets mystified or lost. It helps us to remember the location of each organ of the body and the mind, and simplifies phrenology and physiology very much.

(d) Some of you children show a remarkable degree of it, by finding your way through new streets to and from school. You could not do this if you had not large Locality. Your mothers would be frightened to let you go alone without this mental guide and director. Columbus and Captain Cook had it very large; so had Livingstone, Baker, and Frémont; while hosts of living explorers—Stanley among others—have a prominent degree of it. It is so strong in some men and women that it makes them leave their kindred and friends in search of new localities. All navigators, geographers, surveyors, and hunters have this faculty large and active.

(e) It can be cultivated by the study of geography and descriptive subjects, also by travelling, and committing to memory old landmarks.

(f) Yes, it is possible to have it too actively developed, especially when inclination and business do not work together. It gives an excessive disposition to wander and rove about; a desire to keep changing one's abode. If it is out of the question to gratify this desire, some of the firmer faculties must assist to a settling down of the mind in one place. In those who have but little of this

faculty, it is curious to note the utter want of interest they have to go away from their town or country, especially if Inhabitiveness is large.

(g) There are many animals who show an instinct for places and localities. Many find their way where no man could possibly follow the right road. On dark nights, when you cannot see two inches ahead of you, horses will often show a wonderful amount of sagacity. It is curious to notice the birds, also, in certain periods of the year, fly away to the southern countries, and return again in the spring of each year to the more northern climes to build their nests and lay their eggs. Pigeons, and some kinds of dogs, have a wonderful amount of Locality. Many children are sent to school every day by taking hold of a dog's collar.

Aside from Individuality, Form, Size, Weight, Color, Order, and Calculation, we need an eighth faculty to remember and localize each in its order. These eight are the true perceptive, observing, or seeing powers of the mind, and are situated where they can best perform their various functions. They are necessary to every scientific man, whether he admits the truth of phrenology or not. The zoölogist, ornithologist, botanist, mineralogist, geologist, chemist, and geographer, would be practically at a loss were they to lose their faculties. All such men as Herschel, the great astronomer; Humboldt and Cuvier, the great naturalists; Darwin and Huxley, Galileo, Sir Isaac Newton; all writers of travel and graphic scenery, like Scott and William Black, have a large development of this group of organs; for they are destined to gather up facts, and fix in the mind everything connected with natural phenomena, before the reasoning groups have scope to form their theories.

EVENTUALITY.

" *Oft in the stilly night*
Ere slumber's chain has bound me,
Fond memory brings the light
Of other days around me."

—THOMAS MOORE.

Photo. by George Rockwood.

An Illustration of Eventuality.

For Teachers.

DEFINITION.

Eventuality, consciousness of what is going on; memory of facts, events, stories, statistics, news past and present; with Time and Calculation gives memory of dates, and names, and capacity to be educated.

LOCATION.

In the superior or first frontal convolution.

DIVISION.

It is divided into two parts: the upper part gives memory by association; the lower part gives memory of actions.

The Physiognomical Sign is found in the centre of the lower part of the forehead, between the eyes, and the fulness of the inner side of the eye.

For Children.—Questions on Eventuality, or Sachgedächtniss, Namengedächtniss.

[Dr. Gall included the organ in Educability; Dr. Spurzheim separated it into a distinct function.]

(a) Definition. (b) Location. (c) In what way do children show out this faculty? (d) What is its natural language? (e) How can it be cultivated?

DEFINITION.

(a) Nellie, can you tell the class what this faculty means? "I think so. The word itself half explains its connection with events. It makes us conscious of what

is going on; it gives us a memory of facts collected by the group of faculties we have just studied; it gives a love for stories, all kinds of news, past and present."

(b) Who can tell me where it is situated? "Let me tell," said impatient little Rob. "It is placed where no one can pass it without noticing it, in the very centre of the forehead, above Individuality."

(c) Good, Rob. Now you all know how you show out this faculty everywhere you go. As very little children you used to tease mother and auntie when you went to bed and when you got up in the morning, for "A story, please; do tell me a story." As you are now growing older, you begin to read the newspapers out loud to grandpa: and when you learn all about the kings and queens, the battles abroad, the weather reports, the political news, and the reports of lectures, concerts, etc. In this way you store your minds with much useful information, and with care you can learn an easy style of entertaining company by talking about what you have read. By hearing stories told you, you are saved much of the drudgery that many experience in studying exhaustive histories.

(d) Its natural office is to recall an event when you want to relate it. Many who have it small are continually forgetting just what they want to remember; and though they may be great readers, still it is a trouble to them to recall names, dates, and minutiæ. Such persons have to make notes of what they read, hear, and see, then commit them verbatim. This method takes time, and has to be undertaken as a duty more than as a pleasure. It is better by far to read less, and impress what you read on your minds at the time, than to learn by any circuitous method.

(c) Cultivate your poor memories by relating every day incidents that have happened while you have been away from home, at school, or in the street; and try and fasten one thing at least on your mind every day. Some ancient tribes used to hand down the history of their families and achievements for generation after generation, by simply telling their deeds to their children, who, in their turn passed down the history; for they had no written histories in those days. Learn to look over your thoughts and deeds at the end of each day, and count it as one day lost—like the Roman emperor did—if you cannot recall one good deed done.

TIME.

"*One has always time enough if one will apply it all.*"—GOETHE.

"*Time is painted with a lock before and bald behind, signifying that we must take time (as we say) by the forelock, for when it is once passed there is no recalling it.*"—DEAN SWIFT.

Photo. by George Rockwood.

An Illustration of small Time.

For Teachers.

DEFINITION.

Time, sense of duration, succession and lapse of time; musical measure and rhythm; memory of ages and the time when things occurred; consciousness of the value of time.

LOCATION.

In the second or middle frontal convolution; between Locality and Tune.

DIVISION.

Time is divided into two parts: the inner part gives sense of the lapse of time; the outer gives the sense of measure in music, walking, etc.

The Physiognomical Sign is found in the curve of the eyebrow; when large, it is arched; when small, it is almost straight.

For Children.—Questions on Time, or Zeit-Sinn.

[Localized by Dr. Spurzheim.]

(a) Definition. (b) Location. (c) What does this faculty do for us? (d) Is it worth our attention? (e) Do animals show it?

Answers.

(a) Time is a sense of duration; lapse of time; musical measure and rhythm; memory of dates; memory of when things occurred.

(b) It is located next to Locality, above Color.

(c) It helps boys and girls to be punctual, and it makes them particular to keep their appointments.

It will enable you, children, to recall past events, even to the week and day they occurred. Some have wonderful memories for giving the exact dates when special events took place. Some have it poorly developed; they are always behindhand. They are generally in a hurry. It is bad enough to find a person with it small in private life, but when you come across a public character who is always late when he enters the pulpit, or commences a lecture, or opens his school or shop; when the engine-driver allows the train to start a few minutes late, or the town clock is slow, then it is distressing not only to the man himself, but to scores of other people also. Some people keep their time-piece in their heads, so to speak. They never need to carry a watch; they reckon time as it passes. Musicians need this faculty. Think for a moment of one hundred instruments ajar for want of time —one a little behind, and one a little ahead; one very much behind, another very much ahead. For good dancers it is also essential.

(d) How disorderly everything would get were there not a time as well as a place for things. The occasion has much to do with how we exercise Time. When we are spending the evening with some one we love, we allow the time to slip by without comment; not so with a formal call. Children out at play seldom remember how the time passes; but let them be sent on an errand when they want to do something else, and they do not let the grass grow under their feet one minute. It is most decidedly worth your attention and care.

(e) Yes; some animals always know when it is milking-

time. Dogs know their masters' time for walking to town in the morning; so do some horses that get right away in the far corner of the field, and refuse to be caught for a long while; others stand by the gate ready to be harnessed.

TUNE.

"*Music is love in search of a word.*"—LANIER.

"*Music is a fair and glorious gift of God. I would not for the world renounce my humble share in music.*"—LUTHER.

Photo. by George Rockwood.

An Illustration of Tune.

For Teachers.

DEFINITION.

Tune, sense of sound and music; modulation in speaking, reading, and singing; harmony and melody; sense of emphasis, accent, and pronunciation; ability to appreciate differences in sounds.

LOCATION.

In the third frontal convolution, above Calculation.

DIVISION.

Tune is divided into two parts: tune, the upper part; modulation, the lower part.

The Physiognomical Sign is seen (a) in the fine, artistic, delicate, symmetrical ear; (b) the ear that stands out well from the head.

For Children.—Questions on Tune, or Ton-Sinn.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How do children show different taste in music? (d) What animals show this faculty? (e) Can children be taught to cultivate this faculty while young? (f) What nations take special care to cultivate it?

Answers.

(a) The definition of this faculty is—sense of sound in music, speaking, reading, and ability to distinguish the difference between a great variety of sounds.

(b) Tune is on each side of the head, outward from Time, on the corner of the eyebrow.

(c) Children show a great difference in their ability to exercise this faculty on various instruments, in various ways. John has a great liking for the drum; Robert for the organ; Alice for the violin; while Louie sings very sweetly, and Mary plays on the piano. This is to be accounted for by several reasons. Temperament has considerable influence upon the exercise of this mental quality, while other faculties have a wonderful effect upon it, in drawing out all the various sentiments connected with melody and harmony, and the keenness of recognizing sounds. It is remarkable how clever children sometimes are in detecting the sound of a certain footstep; the sound of a friend's voice, etc.

(d) Numbers of birds have their different songs and ways of producing sounds; few so beautiful as the nightingale and the lark. Children, you should study the habits of animals, for from them you may learn much useful knowledge which you would gain in no other way. That is my reason for discovering, whenever I can, what is appropriate to our subject.

(e) Yes; children can learn music while quite young, and in fact they should do so as opportunity affords; for it is then that they get over the drudgery of learning the mechanical parts, and the little fingers become accustomed to move about quickly and with ease, instead of slowly (and clumsily), as is the case when the first lessons are learned later on.

(f) The Germans, Italians, and Swedes are more talented in music than the French, Americans, Russians, or English; and, what is very noticeable, parents and teachers in Germany and Italy are careful in teaching

their children the proper use of music. Their lessons, games, and exercises are done in musical time and appropriate melody. Children, do not shirk your musical practice because you feel discouraged that you are not all Mozarts at eight years of age. The steady practice will do you more good than you imagine, in more ways than one. Cultivate your voices, also, in reading, and imitate the sweet tones you hear when others speak. Every one likes to hear a melodious voice, but I never knew a person say he enjoyed listening to a harsh, uncultivated one. Examine you yourselves the pictures and busts of all our eminent musicians, and then compare them with those whom you know have no musical perception, and you will thus learn the correct position of this organ.

LANGUAGE.

"*Speech is morning to the mind!*
It spreads the beauteous images abroad,
Which lie feruled and clouded in the soul."

—NATH'L LEE.

Photo. by George Rockwood.

An Illustration of Language.

For Teachers.

DEFINITION.

Language, power to express thoughts, feelings, and emotions by words; ability to repeat verbatim, and to tell what one knows; verbal memory; expressiveness in language, countenance, deportment, art, or music.

LOCATION.

In the third frontal convolution, in the lower surface of the anterior lobe, upon the supraorbital plate.

DIVISION.

Language is divided into two parts: verbal memory throws the eye toward the nose, and gives memory of words; verbal expression throws the eye outward and gives ability to talk and select appropriate language.

The Physiognomical Sign is found under the eye.

For Children.—Questions on Language, or Sprachforschungs-Sinn.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) Have children much of this faculty? (d) What is the necessity for using it carefully? (e) How do some persons show it? (f) Why must you restrain and guard against using it too much? (g) How must it be cultivated when small?

Answers.

(a) Language is ability to put words together; power to communicate thoughts and ideas.

(b) In the plate of the under-part of the eye.

(c) Children generally have considerable of this faculty. Everything new that they see they want to exclaim about, ask questions about, and draw attention to. But children use their voices before they have learned to say Papa and Mamma. There is therefore a baby language which conveys the meaning of the little one to the mother. Many children wonder why their favorite dogs or cats cannot talk as they do; but if we study these animals' ways, we find that their bark or mew—as the case may be—expresses delight, anxiety, hunger, distress, joy, or welcome, as the occasion requires; so their language is distinct and intelligible to any one who understands their habits. Let any one who attempts to address a mass meeting of children be warned beforehand that they possess large Language and cannot easily be kept quiet, not from a want of respect, but simply to gratify the desire to talk, and hear their own voices. Some children are constantly whispering in school. The organ of Language is very active in such, or they would keep all they had to say until school was over.

(d) You ought to make Language a study in order that you may learn how to appropriately clothe your thoughts and ideas, and so as to speak distinctly, that no one need ask you a second time, "What did you say?" It is a rare gift when inherited, and one that is being thought more of in the present day, when public speaking is such a craze.

(e) It is curious to listen to how some people talk when in company. One man will absorb the attention of all present, yet at the close of an evening has often said but little worth remembering; while on another occasion a person with a keen intellect and talented mind will con-

dense his conversation into ten minutes, and yet say more than his very chatty friend. Some have the power to express in writing what they fail to do orally. Some persons can learn a language and understand the science of it, but they cannot imitate the foreign accents; they are able to translate, but cannot make themselves understood if they attempt to pronounce it. Tune, you will see, works much in harmony with this faculty, and assists it very considerably.

(*f*) When very large, it may become troublesome to others. You, my children, may not notice that you talk too much, but when mother says, "Do be quiet a little while, there's a dear," try and carry out her wish. When you talk, inform your mind about what you see and about what you do at the same time.

(g) If you have but little Language, always sit in a corner and have nothing to say when you go out to see your friends, you will neither enjoy yourself nor help others to do so.

CONSTRUCTIVENESS.

"*In the elder days of art,*
Builders wrought with greatest care,
Each minute and unseen part;
For the Gods see everywhere."

—LONGFELLOW.

An Illustration of Constructiveness. This illustration indicates large Constructiveness and Imitation. He is now a successful civil engineer, and made exquisite pen and ink sketches of engines when thirteen years of age.

CHAPTER VII.

THE PERFECTING SENTIMENTS.—"I LOVE TO CONTRIVE AND BEAUTIFY."

This group of faculties consists of the following organs: Constructiveness, Ideality, Sublimity, Imitation, and Mirthfulness.

For Teachers.

DEFINITION.

Constructiveness; ingenuity, contrivance; dexterity; versatility of talent in business, in art, and in mechanics, in poetry, literature, music; ability to construct and invent.

LOCATION.

The organ is located in the posterior part of the third frontal and part of the ascending frontal convolutions, above the spheno-temporal bone; below Ideality, in front of Acquisitiveness.

DIVISION.

Constructiveness is divided into three parts: dexterity, the back portion; ingenuity, the middle portion; contrivance, the front portion.

The Physiognomical Sign is seen in a line under the centre of the eye, and causes a fulness from this point out on the face, under the organ of Language. It is found in Fulton, Stephenson, Davy, Morse, Watt, Arkwright.

For Children.—Questions on Constructiveness, or Kunst-Sinn, Bausinn.—"I Love to Construct."

[Localized by Dr. Gall.]

(a) What is the definition of this faculty? (b) What is its location? (c) What is its use? (d) How do boys and girls show it? (e) How do different nations manifest it? (f) How do the different faculties affect it? (g) In what way do animals show it?

Answers.

(a) The definition of this faculty is ingenuity, contrivance, desire to use tools and invent machinery.

(b) It is located in front of Acquisitiveness, on each side of the head.

(c) The use of Constructiveness enables us to seek out new plans, to use up old materials in ingenious ways, to fit parts together. It gives versatility of talent in business, in art, in mechanics, in poetry, literature, music, and scientific research.

(d) You boys show it by whittling bits of wood into ornamental articles, models, or pieces of furniture. You are ingenious, not only in the making of things, but in the applying of principles, as in electricity, gravitation, and chemistry. Many boys at school will draw and caricature the sharp outlines of their master's features and attitudes. Almost every boy with this faculty large makes a boat or an engine, and cherishes ideas about becoming the captain of the one or the driver of the other. You dear girls show your ingenuity in cutting out and putting together all kinds of garments for your dolls, in

various styles and with various materials; you are also ingenious with your bits of colored paper, your squares of silk, and balls of wool. You are also clever with your pencils in sketching, and with your pens in story writing.

(e) Different nations show this faculty according to their various necessities. The Laplanders and Esquimaux show it in the way they supply their daily wants, obtain their food and clothing, and construct their abodes. The Indians, who concern themselves mainly with fishing, fighting, and hunting, chiefly use it in making suitable implements of war, boats or canoes, and huts or wigwams. They would have to alter their mode of living considerably to live and eat like the white man, or to accustom themselves to soft easy-chairs, spring beds, and pile carpets, all of which the ingenuity of the white man has devised. The Swiss show their ingenuity in carving all kinds of pretty ornaments out of wood and in erecting picturesque houses. They also have a very ingenious way of carrying their babies by strapping them on their backs—a fashion exceedingly useful in their mountainous country. The Chinese and Japanese show their ingenuity in many kinds of fancy basket-work, bright-colored embroidery, and painted screens. The Italians show this faculty in their wonderful conceptions in painting and sculpture, and their beautiful palaces and churches. The Americans show a remarkable degree of this faculty, as is proved by their numerous patents and inventions of all kinds, for the saving of labor and the increase of personal convenience. Now, boys and girls, as we have shown you how several nations use their Constructiveness, you must study how the English, the French, and Germans show it.

(f) All the other faculties more or less are affected by this one. With large Destructiveness and Combativeness one is inclined to build and construct for self-preservation, and with Inhabitiveness, for one's country. With Ideality, Sublimity, and Imitation, taste and harmony are combined with skill, through the medium of paints and brushes, needles and cottons, materials and tools, and pen and ink. With the moral group large, Constructiveness would desire to build places of worship. With Constructiveness, Friendship, and Benevolence large, and smaller Acquisitiveness, a person would show ingenuity in making everything that others wanted, would give away everything he made to gratify his generous impulses.

(g) To gratify your curiosity as to whether animals show Constructiveness, you have only to examine the width of their heads, just back of their foreheads, and you will find that some animals are very particular where they build their place of abode; while others are not. The lion and tiger roam about and make their home anywhere; while the beaver constructs his home in a particular spot. Just so with birds; they build with their bits of straw year after year in the same trees.

IDEALITY.

"*Imagination is the air of the mind.*"—Bailey.

"*I slept, and dreamed that life was Beauty;*
I woke, and found that life was Duty."
—Ellen T. Hooper.

An Illustration of Ideality. The above portrait illustrates large Ideality, Constructiveness, Imitation and Form, which give the child ingenuity, expertness, imitative talent, a ready memory of facts, forms and outlines, and facility to comprehend principles in advance of her age.

For Teachers.

DEFINITION.

Ideality, sense of perfection and beauty; scope and susceptibility of mind; poetical sentiment and imagery; love of art, oratory, and literature; refinement; polish; ability to perfect, embellish, and magnify; expansiveness.

LOCATION.

The organ is located in the ascending and second frontal convolution, near the vertical frontal fissure; in the temporal region of the frontal bone, between Mirthfulness and Sublimity.

DIVISIONS.

Ideality is divided into three parts: expansiveness, the back portion; refinement, the central portion; and sense of perfection, the front portion.

The Physiognomical Sign is seen in the Grecian nose. This nose is one that accompanies artistic thought, and sentiment, taste, and exquisiteness.

For Children.—Questions on Ideality, or Dichter-Geist.—"I love to Perfect and Beautify."

[Localized by Dr. Gall.]

(a) What is the definition of this faculty? (b) What is its location? (c) What is its tendency? (d) How can you cultivate it? (e) Why is it necessary to restrain it when excessive? (f) How does it influence other faculties?

Answers.

(a) A love of art, oratory, and literature; refinement, polish, a love of improvement and beauty in nature, and a desire to magnify things.

(b) It is located directly above Constructiveness, and between Sublimity and Mirthfulness.

(c) The tendency of this faculty is to give you, dear children, a delight in things that are beautiful. All nature is alive with things to gratify this faculty. I am going to ask you to make a list of what you admire most in all you see around you, and then I shall be sure you know what this faculty expresses. Think for a moment how gloomy and dismal this world would look if there were no stars in the sky; no flowers in the woods and gardens; no sweet songsters in the parks. This faculty helps you to keep in check your angry passions; it elevates your thoughts into a higher atmosphere; it gives you a preference for those things that are cultured and refined; hence you find this quality almost wanting in the savage, who is not very gentle or refined.

(d) Children, you can cultivate this love for the beautiful by associating with those things that are excellent, and by avoiding things and companions low or vulgar. Cultivate a taste for poetry; be more careful about your personal attire. For although the solid and useful are necessary in practical life, yet you would be void of sentiment had you not the stimulating faculty of Ideality to spur you on to greater self-perfection. One way to cultivate this faculty which has been suggested, is for you to have squares of ground in your fathers' gardens, and see how prettily you can fill them with flowers from seeds. Cultivate flowers also in the house.

(e) When very large, you show great imagination; and many of you write poetry and stories about all sorts of unrealities. In some of you it is so strong that you sit and dream with your eyes wide open, looking into a bright, glowing fire, or before an open window in midsummer. You become so fastidious that nothing common will suit you. You form your ideals about everything and everybody. It is not difficult for you little girls to imagine that each of your dollies has a different character, and must be treated accordingly. We must guard against too many air-castles; at the same time be ready to accept improvement in every form.

(f) All the faculties are beautified by having the influence of Ideality. A person having large Form, Order, and Constructiveness will produce not only a useful article, but "a thing of beauty and a joy forever."

Instead of a plain, square, red brick house, you find one in exquisite Gothic architecture, ornamented with a beautiful creeping vine. When Time, Tune, and Constructiveness are well developed, Ideality gives a finish to the simple musical score and enhances its charm, etc.

SUBLIMITY.

"*Blessed be the man that really loves flowers! loves them for their own sakes, for their beauty, their association, the joy they have given, and always will give; so that he would sit down among them as friends and companions, if there was not another creature on earth to admire or praise them!*"—BEECHER.

An Illustration of Sublimity. In the above portrait we find sublimity largely developed; in fact, the whole side, top, and front head is well represented. Here is the orator.

For Teachers.

DEFINITION.

Sublimity, consciousness of the vast, grand, endless, infinite, sublime, magnificent, wild, terrific, and extravagant; desire to contemplate the powerful in machinery, in nature, and in the divine attributes.

LOCATION.

The organ is located in the ascending parietal convolution, being bordered by the fissure of Rolando. It is above Acquisitiveness, below Hope, posterior to Ideality, and anterior to Cautiousness.

DIVISION.

Sublimity is divided into two parts: the posterior portion gives sense of the terrific; and the anterior portion gives a sense of grandeur.

The Physiognomical Sign is seen in the breadth of the lower part of the nostril, and the largeness of the eye and the flash of fire as seen in actors and orators.

For Children.—Questions on Sublimity, or Erhabenheit-Sinn.—"I Love the Sublime."

[Localized by L. N. Fowler.]

(a) What is the definition of this faculty? (b) What is its locality? (c) What is its language? (d) Do children show it? (e) How does it work with other faculties?

Answers.

(a) The definition of this faculty is a sense of the sublime, grand, romantic in nature and art.

(b) It is located between Ideality and Cautiousness, and just above Acquisitiveness.

(c) It gives expression to exclamations of delight whenever surrounded by the grand and vast. Ideality has a particular charm for the simply beautiful; but this faculty appreciates more especially the grand, the terrific, the vast, the sublime in everything, not only in nature, but in machinery, art, and oratory. Ideality is content with a picture that is very highly finished and beautifully colored; while Sublimity says: "The picture must be grand, to please me. I don't care so much about its finish, but it must represent rugged precipices, burning volcanoes, raging billows, and stormy sky." The same with a speaker: Ideality delights in a refined and polished orator; while Sublimity appreciates only those who rise above the level of simple polish, and prefers eloquence of a grander stamp; those whose language is coined from grandest forms of speech. Some people have no Sublimity and feel dreadfully terrified by the accounts of their friends who live in continual dangers from falling snows and living volcanoes. These people do not know that their friends possess large Sublimity.

(d) Children show this love of the uncommon. They ask you to tell them extravagant stories, and when telling one themselves they generally stretch the facts beyond the bounds of reason; they also delight to walk near the precipices and on narrow planks of wood, and go to see all kinds of grand wildness, and, with small Caution, are often reckless and cause their parents great uneasi-

ness on their behalf. They enjoy seeing the largest kinds of machinery, and will spend days examining it. Children with large Sublimity see through larger eyes than any other children.

(e) Sublimity works with Ideality and Constructiveness, and gives a love of the grand in mechanical workmanship. It appreciates, grasps, and handles like a toy the immensities which no other faculty so well appreciates. A scenic painter who has a large canvas to work upon, needs a large development of Sublimity. Some kind of orators need it to enable them to enlarge and enhance their subjects, and carry the narrow-minded beyond their usual horizon.

IMITATION.

"*I would advise him who wishes to imitate well, to look closely into life and manners, and thereby learn to express them with truth.*"—HORACE.

An Illustration of Imitation. In the above portrait we find a fine development of Imitation, on either side of Benevolence, which gives a squareness to the part where the hair is parted. Here is the designer, also musician.

For Teachers.

DEFINITION.

Imitation, ability to copy, take and work after a pattern; imitate, mimic, and gesticulate; power to adapt one's self to different kinds of work, circumstances, and spheres of life; versatility of manner.

LOCATION.

The organ is located in the posterior portion of the second frontal convolution, between Benevolence and Ideality.

Imitation is located in that portion of the brain which Dr. Ferrier has localized as Mimicry, or the centre for movement of the muscles of the face.

DIVISION.

Imitation is divided into three parts: the lowest part gives mimicry and the power to copy; the central part, gesture; the upper part, assimilation.

The Physiognomical Sign is found in the action of the muscles at the corners of the mouth and eyes.

For Children.—Questions on Imitation, or Darstellung-Sinn.—"I Imitate."

[Localized by Dr. Gall.]

(a) What is the definition of this faculty? (b) What is its location? (c) Who discovered it, and how? (d) Draw on your slates and then tell me how you represent

a large and small organ of Imitation. (e) What is its correct language? (f) Are habits largely formed by its influence? (g) Are children without it apt to be awkward when mixing with their mates? (h) When this faculty is large, strong, and active, do children need guiding to imitate only the good? (i) Do animals show it, and if so, how? (j) How does it work with other faculties?

Answers.

(a) The definition of this faculty is to work from a copy, to imitate other people and things once seen, to draw patterns and make models.

(b) It is located on both sides of the head, below Benevolence and in front of Spirituality.

(c) "Robert, can you tell me by whom this faculty was discovered, and under what circumstances?" "Yes, sir; I have read that Dr. Gall first decided that it was a distinct quality of the mind by observing the singular breadth of the head of a friend of his, who imitated, without the least hesitation, any characteristic you liked to mention. Dr. Gall afterward made many comparisons between people who had the faculty large and small, and was particularly struck to find it large among deaf and dumb children; as though it were given to make up for a loss of power in other directions."

(d) Now, Charlie, tell me what you have drawn on your slate to represent a head with a large development of this organ. "I have rather a high, round, full, broad head, from the line that runs from side to side over Benevolence; I have drawn that faculty large, as well as Ideality, which lies just below."

Thomas, what have you to represent a small organ of Ideality? "I have drawn a picture I once saw hanging

up in a shop-window. It looks just like a sugar-loaf. And I have drawn another head of a boy, with small Benevolence and large Imitation, and it makes the head look as fat as a table with the leaves up."

(e) Alice, can you tell me how this faculty shows itself in your schoolfellows? "I have often noticed," said Alice, "how some girls can sing a song correctly, after hearing it once sung at a concert, and others have to work away for weeks at the same song. I suppose, one has more Imitation and Tune than the other." "Quite right, dear. It was the wonderful talent of Imitation that enabled Blind Tom to play any piece through that was once played for him, with all the accidental mistakes of the player as well, without any previous knowledge of the piece; for many a musician has often played an unpublished selection of his own composition. Blind Tom showed not only a good memory of sounds, but large imitation, which enabled him to reproduce the same emphasis upon every note. It makes one nation able to imitate the sounds of other languages. It made Arthur speak just like John; so that when outside the door it sounded as though John was calling. It makes one boy stop and see how another succeeds in flying his kite so high, that he may do the same."

(f) Yes, habits are largely formed by the influence of this faculty. It makes younger children do what they see their older brothers and sisters do. It makes young men and young ladies desire to imitate their parents.

(g) Without a proper amount of it children are odd and awkward when thrown among strangers; they seem to have no power to adapt themselves to new surroundings and new ways, or fresh people. Such children must encourage imitation all they can.

(h) Unfortunately, when large and active, this faculty imitates the good, bad, and indifferent, and many children sadly need discipline in this respect; even when they have reached years of maturity they do not let their judgment guide their great delight to caricature and mimic and reproduce the pure and good when compared with the bad. You should pay a little thought to this, children, and avoid imitating the coarse and vulgar when you are young, that the habit may not grow upon you.

(i) Several animals show imitation. You know how the parrot, the monkey, and the mocking-bird all imitate what they see and hear; and how careful you have to be about what you do and say with these creatures in the room.

(j) The faculty of Imitation works with large Approbativeness and Self-esteem in giving subscriptions where the lists will be published and where other society friends have given large sums of money. It is large in artists who visit the British Museum, the Louvre, and South Kensington, to copy the work of others, either on canvas or in clay.

This is a very interesting talent, and much more might be said about it. Study it well and use it rightly. It is often more available than genius or sound knowledge.

MIRTHFULNESS.

"*True wit is Nature to advantage dress'd,*
What oft was thought, but ne'er so well expressed."
—ALEX. POPE.

Photo. by George Rockwood.

An Illustration of Mirthfulness. In the above illustration we find large Mirthfulness on the outer corner of the upper portion of the forehead.

For Teachers.

DEFINITION.

Mirthfulness, fun; glee; gayety; wit; sense of the absurd, the ludicrous, and ill or well timed remarks and acts; it is manifested by laughing, joking, in general jollity, and in playing tricks.

LOCATION.

The organ is located in the second frontal convolution, beneath the temporal ridge; outward from Causality.

DIVISION.

Mirthfulness is divided into two parts: the lower part gives wit; the upper part gives humor.

The Physiognomical Sign is found by the lines that pass upward from the corner of the eyes and mouth.

For Children.—Questions on Mirthfulness, or Witz.—"I Laugh."

[Localized by Dr. Gall.]

(a) What is its definition? (b) What is its location? (c) What is its language? (d) Does it act with the other faculties? (e) What nations show it the most? (f) Must it be cultivated by all?

Answers.

(a) The definition of this faculty in children is playfulness, inclination to see the funny side of everything, and the constant desire to crack jokes.

(b) It is located on the outer edge of the forehead, on each side of Causality.

(c) Its language all children know; even if they have only a small amount. The witty boy is always surrounded by a group of schoolfellows, who think him wonderfully clever because he is always brimming over with sharp, comical sayings. He never goes anywhere without picking up some fresh, pithy stories. Many children laugh at the fun of others, yet cannot make it themselves. It sheds cheerfulness and brightness all around. It is a splendid tonic to small Hope, and should be cultivated more than it is.

(d) It very largely acts with the other faculties. With Combativeness it makes one tease, and say sarcastic things. With the social group it acts when friends drop in, or in society; with Imitation it makes the comedian. With literary tastes it manifests itself in writers like Artemus Ward, Mark Twain, Mr. Burnand, etc. With large Veneration it often makes humorous preachers like Sterne; and so it acts with each organ that is the most influential in a character.

(e) Yes, some nations show more of it than others. The Irish, for instance, are noted not only for their "blarney," but also for their wit. The American is also full of this quality, and he shows it in entertaining his cousin John Bull with interesting and humorous stories.

(f) Of course, it must be kept in control when very large, so as not to wound sensitive persons over any peculiarity. But many a fault can be pleasantly pointed out through the aid of this faculty when it could scarcely be mentioned in a more serious mood. Strive therefore to be cheerful, and not be easily cast down.

CHAPTER VIII.

THE ASPIRING SENTIMENTS.—"I WANT TO ACHIEVE."

The selfish sentiments form a group of three faculties —Cautiousness, Approbativeness, and Self-esteem. They are separated from our large group of selfish propensities because they hold a higher position and are more elevated in the way they show themselves in our characters.

For Teachers.

DEFINITION.

Cautiousness, sense of danger; watchfulness; carefulness; fear; restraint; solicitude; prudence; guardedness; hesitancy; timidity.

LOCATION.

The organ is located in the angular gyrus, the centre for movement of the platysma myoides, or muscle of fright and fear, and bordering on the Supra Marginal convolution; just above Secretiveness, an inch in front of Sublimity.

DIVISION.

Cautiousness is divided into three parts: the front part gives prudence; the middle portion, solicitude; the back part, timidity.

CAUTIOUSNESS.

"*Never leave that till to-morrow which you can do to-day.*"—BENJ. FRANKLIN.

"*And look before you ere you leap,*
For as you sow, y'are like to reap."—BUTLER.

An Illustration of Cautiousness.

The organ of Cautiousness corresponds to that portion of the brain where Dr. Ferrier has localized the centre for fright, affecting the muscles of the mouth.

The Physiognomical Sign is found in the muscles that play around the mouth.

For Children.—Questions on Cautiousness, or Behutsamkeit.—"I Foresee."

[Localized by Drs. Gall and Spurzheim.]

(a) Definition. (b) Location. (c) What is the natural language of this faculty? (d) Do we notice any difference between boys and girls in regard to this organ? (e) What examples illustrate this faculty when large and small in children? (f) How does a deficiency of this faculty show itself? (g) Do mothers generally show a large degree of Cautiousness? and what is the result when too large in children? (h) What animal shows a want of Cautiousness, and what kind shows a large amount of it? (i) How does it act when combined with other faculties?

Answers.

(a) The definition of this faculty is very plain, for the word itself is its own interpreter, and I expect each of my young friends could give me a pretty clear idea of the true definition; and I am not wrong in my surmise, for Richard says it means Guardedness; Mary, Carefulness; Bella, Fear; Jo, Restraint; little Alice, Timidity; thoughtful Jane, Prudence; Jack, Watchfulness; Lucy, Solicitude; Fred, A sense of danger; James, A regard for the future. Quite right; I could not have given better definitions myself.

(b) Now, the location of this faculty is just above Secretiveness, on both sides of the head.

(c) You know when you see a red light on a signal-box that it means danger; and wherever there is the block system, the red light or flag stops the train until the

color changes to green. Just so, children, is it with the working of your minds. Cautiousness gives the danger-signal, and Hope, among other faculties, changes the fear into bright anticipation. It is on the look-out for accidents, failures, possible disappointments, and changes. It is always looking ahead into the future, and is generally prepared for whatever comes along, and is seldom taken by surprise, or off guard.

(d) We notice a great difference among you boys and girls with regard to this faculty. As a rule, it is larger in our girls than our boys.

(e) Robert has very little sense of danger, and is constantly doing rash things. He says he is longing to ascend all the highest mountains of Europe. He does not study the dangers that experienced travellers have found, even with a guide; he feels confident he could make his way alone. His brother Jack, who has a full development of Cautiousness, has many times warned him against the dangers of mountain-climbing; but even the possibility of dense mists, cold, hunger, snow, or slipperiness, is not enough to dampen his ardor. Mary, on the other hand, never does anything without careful deliberation, and always carefully estimates her chances for success or failure. Little Alice is timid about lending her dolls, for fear they will get their heads cracked, their arms pulled off, or their legs broken. So she replies: "I would rather nurse my dollies myself, if you do not mind very much, Bella." So Alice is thought to be very selfish not to lend her dolls to her playmates; but in reality she is more frightened to trust them out of her sight than greedy to keep them all herself. She knows that Bella's dolls all have some disfigurement, for they are thrown about in a careless way, and Bella has more than once

said her mother was going to buy her a new doll at Christmas, and she was going to do just as she liked with her old ones. She has small Cautiousness, and very little love or attachment for her dolls and playthings.

(f) It is distressing to meet a child who has a deficiency of this faculty; it requires careful training. Such a one rushes into a new enterprise when he grows older —especially if Hope is large—with the most sanguine anticipations, without seeing the results. He does not know what fear is, and chafes under any restraint, and thinks the advice of his friends unnecessarily given. In all sports he is the most daring, but not the most successful. He runs great risks with his life—in the water and out of it—by riding on the edges of precipices; by riding the fastest horses; by swimming in deep and uncertain currents; and would like to imitate Captain Webb, who attempted to swim in the boiling and turbulent rapids at Niagara. Boys and girls who have small Cautiousness and small Secretiveness often offend their friends when they really do not intend to, by the way they express their likes and dislikes.

(g) Mothers generally show a great share of Cautiousness by being apprehensive lest their children will come to some harm when away from them, and give themselves unnecessary trouble and anxiety. When too large in children they show it by being morbidly sensitive about beginning anything new; they are irresolute, restrained, especially in company; they procrastinate and put off until too late.

(h) The fly shows a want of it when caught in the spider's snares; but the hen exhibits a large quantity when her chickens are let out of their hen-coop. While the excess of this faculty leads to unnecessary fear, care-

fulness, and anxiety, a deficiency makes a child reckless and indiscreet.

Large Cautiousness combined with small Hope leads to melancholia, hence the need of Mirthfulness to scare away gloomy thoughts suggested by too much anxiety and fear, and not brightened enough by the sunny side of life's drama. When a child has large Cautiousness, Approbativeness, and Conscientiousness, and smaller Destructiveness, Combativeness, and Firmness, then the sufferings of that mind will often be intense, and a knowledge of mental science will help toward the better understanding of those faculties that are too large and a cultivation of those that are too small.

APPROBATIVENESS.

"*Give me a man whose heart*
Is filled with ambition's fire ;
Who sets his mark in the start,
And keeps moving it higher and higher."

An Illustration of Approbativeness. The above illustration indicates large Approbativeness just each side of Self-esteem, on the bend of the back top head.

For Teachers.

DEFINITION.

Approbativeness, ambition, emulation; sense of character; desire to excel; love of praise; sense of honor; sensitiveness; love of distinction and popularity.

LOCATION.

The organ is located in the superior parietal lobe of the brain; half an inch above the lambdoidal suture, between Cautiousness and Self-esteem.

DIVISION.

Approbativeness is divided into three parts: the lower part gives ambition and emulation; the upper part, display and regard for fashion; the part joining Self-esteem gives sense of character.

The Physiognomical Sign is seen in the open lips.

For Children.—Questions on Approbativeness, or Eitelkeit.—"I Want to Please."

[Localized by Drs. Gall and Spurzheim.]

(a) Definition. (b) Location. (c) What is the language of this faculty? (d) Ought this faculty to be encouraged in children? (e) How do some nations cultivate this faculty in their children? (f) How do our little girls often show it? (g) What do boys see in their fathers to imitate and to fire their ambition—such as warriors, statesmen, etc. (h) What does the excess lead to? (i) What

makes children excessively sensitive? (j) How can this faculty be regulated? (k) What animal shows this faculty?

Answers.

(a) The definition of this faculty is politeness; a sense of character; a desire to excel; a love of praise; a sense of honor.

(b) Its location is just between Cautiousness and Self-esteem.

(c) The language of this faculty gives the disposition to a boy to be polite, gentlemanly, and courteous. It helps the girl to adapt herself in a pleasant way to others; it makes her want to appear well before her mates; and, in fact, she wants everything as nice as her friends. It makes the boy sensitive when told of a fault before his schoolfellows. Ellen was delighted when she received those words of praise from her teacher. She felt very much encouraged; enough so to begin again with a light heart to learn her next difficult lesson.

(d) This faculty ought to be cultivated in children when it is indifferently developed; for, when it is very small, they care but little about their appearance, whether their faces and hands are washed before going to school or not. They have no stirring ambition to set them to work, and fail in little attentions to father and mother.

(e) Different nations show this faculty in their own peculiar way. Some take pride in ornamenting their children's skins with numerous figures and designs; others take pride in binding up the feet of their little ones, that they may be thought well of when they go into society. Some tighten the supple bones of their daughters by put-

ting them into stiff stays, that they may have fashionably correct waists when they are older. Some flatten the foreheads of their children as a mark of beauty.

(f) Little girls show this faculty by their love of dress. Nellie makes any excuse to get her mother's permission to put on her blue cashmere. Katie is very fond of rings and all kinds of jewellery, and always fancies she can be a better girl when she has on her gold ring and bracelet; so she often takes them with her to school and slips them on, and no one can complain of little Katie not learning her lessons when she has on her favorite sentinels, as she calls them.

(g) Boys study their father's noble and heroic deeds, and long for the time to come when they, too, can go out into the world and conquer their enemies, make a great name for themselves, and add one page to history. Boys, study up your histories, and your books of biography, and pick out the characters who showed the most ambition—such as Napoleon and Alexander, and many of the ancient kings. Study also the lives of living men, and you will understand more fully what this faculty leads a person to do.

(h) The excess of this faculty makes boys very restless; over-anxious to outdo every other boy in the games, in sports, in exercises, whether they are equal to the task or not; hence many strain themselves while young, not from the hard work that boys have to do, but from an over-stimulated ambition.

(i) This faculty, when very large, also makes children very sensitive and susceptible; often so much so that they cannot go out into company with any pleasure for fear somebody will criticise what they say or do, and wound their feelings. Such children should be allowed to come

into the drawing-room at home, when there is company, and play on the piano and recite, before they are put to the misery of visiting in other houses.

(j) This faculty can be regulated if children are only taught to help themselves in their own government, and not governed with the slipper or rod entirely. Children who only obey through fear never learn to govern their tempers, their ambitions, or their passions. Mothers should endeavor to secure and keep the confidences of their children for years after the daily governess has been dismissed, so as to prevent the sensitiveness of their natures being brought out too much.

(k) The peacock is a good example of this faculty.

SELF-ESTEEM.

"*The truest self-respect is not to think of self.*"—H. W. Beecher.

Photo. by George Rockwood.

An Illustration of Self-esteem. The above portrait indicates height at the crown of the head—large Self-esteem.

For Teachers.

DEFINITION.

Self-esteem, self-love; self-appreciation; self-respect; manliness; the desire to command, to take responsibilities; dignity; independence; love of liberty.

LOCATION.

The organ is located in the superior parietal lobule, behind the fissure of Rolando; between Firmness and Continuity.

DIVISION.

Self-esteem is divided into three parts: the lower portion gives independence; the middle part, self-love; the front part, dignity.

The Physiognomical Sign is found in a full and stiff upper lip.

FOR CHILDREN.—QUESTIONS ON SELF-ESTEEM, OR STOLZ, HOCHMUTH.—"I WANT TO LEAD."

[Localized by Drs. Gall and Spurzheim.]

(a) Definition. (b) Location. (c) Natural language of this faculty. (d) How necessary is this faculty? (e) How can you pick out a boy, among boys, who has large Self-esteem? (f) How is it apt to be perverted? (g) How do the two faculties, Self-esteem and Approbativeness, differ?

ANSWERS.

(a) Self-respect, self-love; dignity; independence; love of liberty; desire to take the lead, command others, and hold responsibilities.

(b) In the crown of the head, just where the back of the head rises, between Firmness and Continuity—on each side of it, lies Approbativeness.

(c) Children show this faculty most distinctly; sometimes by thinking they can decide for themselves just as well and as wisely as their parents. Boys show it by their anxiety to get away from the restraints of home. They

chafe under discipline, and think that to do as they please is an indication of their importance.

(d) It is a very necessary and helpful faculty. It assists both boys and girls to have confidence in their own powers, and to have self-respect, and it enables them to rely upon their own exertions.

(e) You can always pick out the boys who have large Self-esteem, even in a group. Such lads will always take the lead, instinctively, give directions, and rule the crowd. There is nothing they like better than to see others follow their leadership, and to express their opinions before an audience.

(f) This faculty is easily perverted, and if not curbed in childhood inclines a person to be haughty, proud, dictatorial, authoritative, imperious, and domineering. "Boys, I want you to be self-reliant without being what we have just indicated is the case with those who have little control over their pride. I want you to have self-respect—for that calls out respect in others—without indicating that your opinion is the only one worth listening to. On the other hand, you children who have the organ small must cultivate it by mixing with those who will call it out. You must guard against being too familiar and easy; too much influenced by the good or evil report of others, and must not shirk responsibilities, and shift them upon another's shoulders, and must cultivate more dignity, and not fear that you will not succeed in your undertakings."

(g) The difference between Self-esteem and Approbativeness is, that the latter, when large, inclines one to be too anxious to please, and too vain of a good appearance; while Self-esteem thinks more purely of self-respect, and cares less for the approbation of others.

CHAPTER IX.

THE REFLECTIVE, REASONING, AND INTUITIVE GROUP.

This group comprises Causality, Comparison, Human Nature, and Agreeableness. When studying the Perceptive group we found, if you remember, how useful were its faculties for seeing and observing natural phenomena and experiments. Now, as we pass to the range above, we shall find, I think, the Reflective group quite as interesting, if not more so, and equally important.

For Teachers.

DEFINITION.

Causality, comprehensiveness of mind; soundness of judgment; originality of thought; power of perceiving and applying the principles of causation; ability to think, plan, lay out work; to originate, philosophize, discover, argue, and reason.

LOCATION.

The organ is located in the second frontal convolution; above Locality, in the upper and lateral parts of the forehead; below Agreeableness, externally from Comparison.

CAUSALITY.

"*To think is to live.*"—CICERO.

"*Every thought which Genius and Piety throw into the world, alters the world.*"

"*Thought takes man out of servitude into freedom.*"—EMERSON.

An Illustration of Causality. The above portrait indicates large Causality, Comparison, and Human Nature. The child has a large brain in proportion to her body.

DIVISIONS.

Causality is divided into two parts: the outer portion gives power to plan; the inner part gives power to reason.

The Physiognomical Sign for Causality is a wide upper forehead and long wings of the nostrils.

The Physiognomical Sign for mathematical skill is seen half an inch below the centre of the eye, beneath the organ of Language.

FOR CHILDREN.—QUESTIONS ON CAUSALITY, OR METAPHYSISCHER TIEF-SINN.—"I WANT TO THINK."

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) In what way do children show it. (d) How is it a guide to the mind? (e) What examples can you give of a large development of it? (f) What examples when small? (g) How can it be cultivated? (h) What men were known to have it large? (i) Do animals show reason?

ANSWERS.

(a) Causality is power to think, plan, theorize, and understand the relation of cause to effect.

(b) In the upper part of the forehead, on each side of Comparison.

(c) You children show this faculty when you ask questions all day long. Many of you suppose it is sufficient for you to see what is going on around you, in which case the eyes and the perceptive faculties alone would be sufficient. There are, however, many things that are hidden from your sight that need to be explained in order to be understood, which you will realize if you think a minute. Causality has therefore to be called upon to find out these hidden things. Some of you learn more by asking questions to gratify your curiosity than by taking the trouble either to observe or find out through books about general facts.

(d) It is a guide to your minds through your reason rather than through your experience. Charlie was tempted to put his finger on a piece of red-hot coal to see how hot it really was; but after thinking a minute decided it was probably too near the fire for him to touch it without blistering his finger. It was Causality that made him stop to consider how much heat there was in the fire, and it ultimately guided him in the matter.

(e) Minnie is a very good example of large Causality. She seldom does anything without asking her mother or teacher "Why must I do so?" "Do tell me just this one thing!" Boys, watch your schoolmate in a room full of machinery, and you will find that his Causality will trace out a reason for all the parts of nearly everything he sees. With it large you will find girls and boys will make abstract original thinkers, schemers, planners, and good speakers and writers; for such minds are never at rest. Many boys, however, develop so active an organ of Causality that they grow up with such far-fetched ideas and so many schemes that they cannot possibly reduce them to practical purposes; such characters need to cultivate practical common sense. With Constructiveness large, they show an inventive talent, and their ideas go to help that faculty. Nature is full of illustrations of the wonderful divine thoughtfulness in constructing, planning, and arranging all things for our material use. Some of you boys are very fond of chemistry, mathematics, and all kinds of intricate subjects; hence you delight in using your Causality to inquire into them. Your parents say you never tire of asking questions in order to get at the origin and first causes of things. You all know what faculty helped Sir Isaac Newton to make his wonderful yet simple discovery of the principle of gravi-

tation. You remember, perhaps, being told how, as he saw the apple drop to the ground, he began to wonder why it fell straight down. The same faculty made him reason that there was a special attraction, which he called gravitation, which made everything that was thrown up in the air, or that was heavier than air, fall to the ground. It was Causality that helped him to discover that light, which was supposed to consist of one primary color, really contained seven.

(f) Children who have a small organ of Causality never trouble themselves to think what gives the bright light to the candle, or why they have the sun to give heat and light by day, and the silvery moon to light the heavens by night; or why it is that big steamers sail on the top of the water, while stones, and human bodies sink to the bottom. The boy with small Causality never stops to think why his kite that has a hole in it will not soar as high as his brother's, which is a perfect one. He only perceives the fact, but has to get someone else to reason out the cause. When Causality is small, a person is not capable of forming a sound judgment on anything, and has narrow views, and cannot plan, or think deeply on philosophical subjects.

(g) It can be cultivated—first, by paying strict attention to the causes of everything; second, by planning ahead; third, by thinking out a subject thoroughly in order to get at the origin of it; fourth, by mingling with those who have it largely developed.

(h) Most of the ancient philosophers were examples of large Causality. In more modern times, Benjamin Franklin, Gall, Cuvier, Spurzheim, Daniel Webster, Herbert Spencer, and scores of others we might mention, are prominent examples. "No man," says Mr. Fowler,

"but one with the originality which is given by the large development of Causality would ever have thought of putting lightning in a bottle, or of drawing lightning from the clouds, as Franklin did."

(i) Yes; animals show a kind of sagacity which almost amounts to reason. If you study the habits of animals closely, children, you will find among the bee tribe a wonderful forethought in everything they do, especially in the arrangement of their wax for housing their honey and supporting their homes. Darwin mentions many curious things about the sagacity of animals which illustrate this intuitive sagacity, that so strongly resembles our reasoning power.

COMPARISON.

"*What, is the jay more precious than the lark,*
Because his feathers are more beautiful?
Or is the adder better than the eel,
Because his painted skin contents the eye?"

—SHAKESPEARE.

An Illustration of Comparison This organ is well illustrated in the three children.

FOR TEACHERS.

DEFINITION.

Comparison, disposition and ability to compare various things for the purpose of ascertaining their points of resemblance and of difference; power to reason from effect to cause; to compare, illustrate, and classify, and reason analogically; critical acumen.

LOCATION.

The organ is located in the superior or first frontal convolution, above Eventuality, below Intuition, and between the two lobes of Causality.

DIVISIONS.

Comparison is divided into two parts: the lower portion gives comparison, the power to analyze and classify; the upper part gives criticism.

The Physiognomical Sign is seen in the outer corner of the nostril.

For Children.—Questions on Comparison, or Vergleichander-Scharf Sinn.—"I Want to Analyze."

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How does Comparison work with other faculties? (d) How does it help the memory? (e) It is an important faculty to cultivate. Why? (f) How can we show too much of this faculty? (g) Who show this faculty specially large?

Answers.

(a) The definition of Comparison is ability to draw comparisons, discriminate, illustrate, and explain, and to trace the resemblance of one thing to another; ability to classify, analyze, and criticise minutely.

(b) It is located in the centre of the forehead, above Eventuality, and between the two organs of Causality.

(c) Comparison helps us in many ways with other faculties. Every faculty more or less compares the things connected with its own peculiar character; for instance —Order compares an untidy room with a well-arranged one; Eventuality compares stories, facts, and events; Tune compares sound and melodies; Weight compares the light and heavy loads; but Comparison is the only faculty that discovers differences in generalities, and unexpected resemblances, and all kinds of natural phenomena. It works with the perceptive faculties—and especially with Causality, and most particularly with Human Nature—to criticise opposite points in character. With Constructiveness it classifies and closely examines the different parts of a watch; in large mechanical works it compares one kind of machinery with another. It works with all the faculties that are interested in the exact sciences—such as botany, chemistry—in which nice deductions have to be made. It works with Benevolence, Acquisitiveness, and Conscientiousness, and compares the need to give with the amount offered.

(d) It helps the memory, recalling everything by a connecting link or illustration. The New Testament is full of metaphors. You know that order is one of Nature's first laws, and that there is a resemblance, a connection, and a similarity, as well as a difference, an opposition, and variation in things. You gather many leaves off one tree, and think they are all alike at first; but your Comparison soon points out differences of the minutest kind. In the same way, your Comparison sees the connecting link between the lowest and the highest of God's creatures. You find it easy with the aid of this faculty to compare animals of one class, and describe what you see alike in them and the use they are to one another. Many

of you know that heat expands and cold contracts; if you have never noticed an illustration of this, watch the tea-kettle boil over. A sunbeam shining upon a dewdrop will show you its rainbow tints. Comparison sees this; it also understands that hot air is lighter than cold; hence the top of the room is always hotter than the floor. This is experienced by any one who is hanging pictures or decorating the walls of a room; therefore, ventilators are put near the ceiling. It is Causality that asks all the questions about things; while Comparison puts the reasons together, draws inferences, and points out harmonies and incongruities, and impresses the memory with peculiarities.

(e) It is very important that all of you children should cultivate and improve this faculty, and not allow your minds to be indifferent to the great variety of characteristics in people and in nature.

(f) The only way we can show too much of this faculty is by being too critical and fault-finding, and by always pointing out the defects and inconsistencies of others with too much distinctness, and too little charity. With Mirthfulness and Combativeness large, a boy will become very sarcastic and cutting in his remarks, and unless he possesses refined instincts in regard to other people's feelings, he will be liable to wound and hurt them.

(g) We find Comparison large in all naturalists and botanists; as illustrated by Darwin and Linnæus, in most of our leading thinkers and writers. In barristers it is specially prominent, also in many of our celebrated divines—as in Canon Farrar, Chalmers, Spurgeon, and others. Poets like Moore are remarkable for the way in which they use metaphors.

HUMAN NATURE.

"*It is the common wonder of all men how among so many million faces there should be none alike.*"—BROWNE.

"*We have legible countenances like an open book; things that cannot be said, look eloquently through the eyes; and the soul, not locked into the body as a dungeon, dwells on the threshold with appealing signals.*"—STEVENSON.

An Illustration of Human Nature.

For Teachers.

DEFINITION.

Human nature, sense of character; introspection; power to look inside the mind and lift the curtain and study traits of character.

LOCATION.

The organ is located in the superior frontal convolution; below Benevolence and above Comparison.

DIVISIONS.

Human nature is divided into two parts: foresight is in the portion next to Benevolence; Intuition below, next to Comparison.

The Physiognomical Sign is seen by the largeness of the centre of the eye—a sense of mental inquiry.

For Children.—Questions on Human Nature, or Menschen-Kenntniss.—"Study Mankind."

[Localized by L. N. Fowler.]

(a) Definition. (b) Location. (c) How does this faculty help us? (d) In whom must it be large? (e) In what way do we sometimes show an excess of it? (f) How can it be cultivated and restrained?

ANSWERS.

(a) Intuition, sagacity, power to read the character and motives of others correctly from first impressions.

(b) Between Benevolence and Comparison.

(c) It helps us to form impressions about the characters of our friends, or any one, in fact. Intuitively, we know whether we can trust a person or not, without quite knowing why Human Nature gives us this intuitive perception. While Causality is reasoning about a thing, Human Nature has arrived at a correct conclusion by another method. It helps us by taking a positive delight in reading and penetrating the thoughts of others. It gives us foresight into the future, and enables us to say and do the right thing at the right time. A little girl was playing on the line at the end of her father's garden, just beyond the curve where he was working as signalman. She had wandered further than she was aware, in search of flowers on the bank; but she knew her way all about the neighborhood, and being such a cautious child her mother was never anxious about her. She came to a place where some workmen had been mending the line. They had just gone to dinner, and had carelessly left one of their heaviest tools on a portion of the line, and two heavy pieces of iron. The child spied these, and, half out of curiosity, went to see what was on the top of the rails. She attempted to remove them; but, finding she could only lift the tool away, she thought a minute on what she had better do. She was too far from her father to make him hear her cry for help, and every minute she expected the up train, which was generally full of passengers. She did not hesitate, but took off her red handkerchief which was round her neck, and ran along the

line to meet the train, crying, "Stop! stop! stop!" Soon the train came steadily along. It was the engineer's habit to look out sharply before turning the curve, and to blow his whistle, so he could not hear the trembling voice; but the wee bit of red something waving in the distance, carried by a little mite of humanity, made him remark to his fireman: "Something's up on the line; must slacken the speed." He soon came up to the child, who was by this time panting for breath. He stopped his train by his powerful brake, got down from his engine, and took the child in his arms. She told him as well as she could what was the matter, and he took her up with him into his engine. He then moved slowly on to the spot where the obstruction was, removed it, and asked her where he should put her down. When the train arrived at N——, the engineer told his story of the brave little girl who had saved his train from disaster. Now, children, what faculties did this child use? Some children would have been so frightened they would have sat down and cried, if they had even had the sense to see the danger; but this child showed several prominent qualities worthy of copying. "I should think," replied James, "she showed Causality and Courage, but most of all Intuition, which gave her the sagacity to do the right thing at the right moment." You are right in your guess, James; and I want you all to use all the Intuition you possess in times of danger.

(d) It must be large in generals, detectives, phrenologists, and doctors.

(e) Human Nature, with Comparison large, will be liable to make a person too critical, suspicious; too disposed to pry into and scan the concerns of others, and too fond of predicting events.

(f) It can be cultivated when small by studying the motives of others, also by reading the signs of the times more thoroughly, and by the cultivation of tact. It may be restrained when excessive by cultivating a greater confidence in others, and by making more allowances for their defects.

AGREEABLENESS.

"*Be cautious.*"

"*You find yourself refreshed by the presence of cheerful people; why not make earnest effort to confer that pleasure on others?*"—L. M. CHILD.

An Illustration of Agreeableness. Large Agreeableness is indicated in the above portrait, on either side of Human Nature.

For Teachers.

DEFINITION.

Agreeableness, persuasiveness; pleasantness; blandness; youthfulness; ability to interest and entertain others; to be agreeable, pliable; to manifest suavity of manner.

LOCATION.

Agreeableness is located under the frontal bone in the second or middle frontal convolution, between Imitation and Causality, an inch on each side of Human Nature.

DIVISIONS.

Agreeableness is divided into two parts: the lower or outer part gives youthfulness; the upper or inner part gives blandness.

The Physiognomical Sign is found in the centre of the space between the mouth and chin, generally where the central dimple is.

For Children.—Questions on Agreeableness and Youthfulness, or Anmuth, Jugendfrische.

[Localized by O. S. and L. N. Fowler.]

(a) Definition. (b) Location. (c) What use is this faculty to us in company? (d) How do children behave without this faculty being fully developed? (e) How must it be cultivated? (f) Who must have it large? (g) How does it act when large?

Answers.

(a) Youthfulness, blandness, amiability, pleasantness, pliability of manner, and suavity.

(b) Behind Imitation and Causality, on each side of Human Nature.

(c) It makes us genial and pliable in company.

(d) Without much of this faculty children show a repulsive manner; do not conciliate their schoolfellows; never try to point out the good traits of their friends, and cannot hide their feelings even when they feel put out. They cannot smooth things over, and do not give "the soft answer that turneth away wrath." In company, if things do not please them, they go in the corner and sulk, and will not do their part toward entertaining others. I hope there are few children of this description. If you know of any with small Agreeableness, do help them to cultivate it.

(e) It can be developed by the person being more polite and affable.

(f) Doctors need it large to make their patients forget their ailments; teachers need it to adapt their methods of instruction to different minds; parents need it to make the machinery of home-life go easily; and children need it to make them agreeable to their brothers and sisters—in fact, every one needs it to get on well in life, and to make the rough edges smooth.

(g) Children with it large always get on wherever they go. They are always liked and welcomed by a large number of friends. They know how to say a thing that will please and gratify their mates, and, in short, always sugar-coat their pills.

CHAPTER X.

THE SOCIAL GROUP—"I LOVE."

THE DOMESTIC PROPENSITIES.

The faculties that come under this group are Inhabitiveness—love of home; Philoprogenitiveness—love of children and pets; Friendship—love of companions and friends; Conjugality—love of a special mate; Amativeness—love to be caressed; Continuity—love of concentrated thought.

INHABITIVENESS.

"*Home is the grandest of all institutions.*"—SPURGEON.

"*Home, we love it, and all that are there.*"—NICOLL.

"*My country, 'tis of thee,*
Sweet land of liberty,
Of thee I sing."—SMITH.

FOR TEACHERS.

DEFINITION.

Inhabitiveness, love of the institutions of one's country; of home, house, and place; patriotism; disinclination to change one's abode.

LOCATION.

The organ is located in the superior or first occipital convolution, on the central line of the brain, below Continuity.

DIVISIONS.

It is divided into two parts: patriotism, the portion adjoining Friendship; and love of home, the central portion of the organ.

An Illustration of Inhabitiveness. The portrait of the above child indicates large Inhabitiveness in the head and face.

The Physiognomical Sign is to be found under the lower lip, midway between the central line and the outside curve. In age, it shows itself in a deep line; in youth, in a fulness in this part.

For Children.—Questions on Inhabitiveness, or Vaterlandsliebe, Heimath-Sinn.

[Localized by Dr. Spurzheim and George Combe.]

(a) Definition. (b) Location. (c) What faculty causes children to be homesick when they are away at school? (d) What faculty enables people to settle and remain in the same locality, and dwell in the same house year by year? (e) When Inhabitiveness is deficient what characteristics are noticeable? (f) What nations show less of this faculty of Inhabitiveness than others? (g) What combination of faculties gives the exploring talent?

Answers.

(a) The faculty of Inhabitiveness gives the instinct in the mind for attachment to home, place, locality, country, and an unwillingness to change one's abode.

(b) Inhabitiveness is located directly above Parental Love, below Continuity, and between the two organs of Friendship.

(c) It is Inhabitiveness which gives children a homesick feeling, when they go from home to join their schoolmates. There is a great difference in children: some take days and even weeks to settle down to school habits, while others feel at home at once and merrily strive to relieve the drooping spirits of their comrades. Then what an excitement there is when the school-term ends and Inhabitiveness is actively engaged thinking of the oft-quoted line, "Home for the holidays here we go." When at home again, the children wander over every room in the house, every old familiar walk along the

country lanes, every stile across the cornfields, and down the shady avenues to bring back sweet recollections, and to discern every change. Many go abroad, and are away from home several years; yet they do not forget the happy days spent in their childhood in the old familiar tree where the hammock hung, as well as in many other ways; and by their imagination they again live through their early home-life. Home to them contains all the old charm. Distance and separation make no difference; and this sentiment will remain with them through life, or so long as their Inhabitiveness remains actively exercised. Such children want their own sides of the bed, their pegs in the hall, their drawers, etc.

(d) It is Inhabitiveness that enables people to settle down and localize interest and build up wild and uncultivated parts. A man will pride himself that his present dwelling belonged to his father and grandfather, and further intimate his intention of ending his days there. It is beautiful to listen to an old man as he relates to his surrounding grandchildren curious stories about the dear, old-fashioned homestead. How much pleasure he takes, too, in looking at the low-gabled stories, the small window-panes, and the garden with its old-fashioned flowers! With large Inhabitiveness, what a warmth of affection parents show in having all their family at home at certain festivities!

(e) When we find but a small development of Inhabitiveness we know such people will be characterized for a love of change, a desire to rove from place to place, without feeling any twinge of regret on leaving. They never know the home feeling which makes another person with large Inhabitiveness live within a certain radius all his life.

(f) Some nations show this disposition to wander more than others: such as the gypsies and some Indian tribes.

(g) With small Inhabitiveness and large Locality persons show a wonderful inclination for exploring. Capt. Cook, Columbus, Livingstone, and Stanley, all possessed this combination.

PARENTAL LOVE.

"*A mother's love—how*
Sweet the name?
What is a mother's love?
—A noble, pure, and tender flame
Enkindled from above,
To bless a heart of earthly mould
The warmest heart that can grow cold,
This is a mother's love."—JAS. MONTGOMERY.

An Illustration of Philoprogenitiveness. Philoprogenitiveness is here largely represented.

For Teachers.

DEFINITION.

Philoprogenitiveness, parental love and tenderness; love of children; fondness for pets, especially for young animals, and for the infirm and helpless.

LOCATION.

The organ is located in the second and third, or middle and inferior, occipital convolution, just above the occipital spine.

DIVISIONS.

It is divided into three parts: the lower portion gives a love of pets and animals; the central portion, a love for children generally, without reference to parentage; the upper portion gives a love of one's own children.

The Physiognomical Sign for this faculty is found above the lips in the line from the nose to the mouth, one degree removed from the centre—where concentration is situated.

For Children.—Questions on Parental Love (Philoprogenitiveness), or Jungenliebe, Kinderliebe.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How do children show it? (d) In whom is it large, as a rule? (e) Can this faculty be restrained or cultivated? (f) Do some animals show a greater love for their young than others?

Answers.

(a) Parental Love is that faculty Nature has given us in order that we may properly care for, and tend, the young, the weak, and tender—love for little children, animals, and pets of all kinds. It is a natural instinct in parents, as well as in many who are not, but who love children so much that they feel drawn to care for those of others. Had mothers no special love for their little ones—who cannot care for themselves—aside from a sense of duty, the task would become irksome and tedious.

(b) This faculty is situated above Amativeness, in the centre of the social group.

(c) Many little girls show a marked degree of this faculty. Some of you know how delighted you feel to have a baby doll to nurse in its long clothes. You are perfectly happy when you possess a large family of dolls, and call each by its own name. You do not mind how much work you have to do to plan out dresses for them, and contrive little surprises by taking them out for a drive or a walk, or by inviting friends to have tea with them. Then they have to be put to bed, and in a hundred ways you learn to imitate your mothers. Boys express the same faculty by feeding and caring for rabbits, dogs, horses, and other animals.

(d) This faculty is generally larger in the mother than the father, though there are exceptions where fathers take as much interest in their children as any mother can show. It was large in the lady who possessed five beautiful cats, which sat at her table when she took her meals. This lady spent the best part of her affection on these dumb animals, instead of doing good by bestowing

it upon a few of the scores of motherless children who have to grow up as best they can without motherly love. Some people, however, spend their lives and their fortunes to make homes for orphan children. Such is a true work of love; for no one could start such an institution without first feeling the drawings of something more than pity for little children—it is genuine love.

(e) It is a faculty that needs guiding when too large, and cultivating when deficient. When too active one is apt to be over-indulgent, and inclined to pet and spoil children when young. It, however, enables many to become excellent nurses in children's hospitals, as well as in large private families. Without this faculty, the sight of children irritates some tempers, and many children are left to the mercy of servants and hired persons, because the mother will not trouble to look after her children herself. Their education is superintended by governesses, and no desire is shown for the children's company until they are ready to go into society, by which time the foundation of their characters has been laid, and the responsibility thrown upon strangers, which is a most unfortunate thing.

(f) Some animals show as distinct a love for their offspring as any human being; while others are just as neglectful. The mammiferous animals take great care of their young—monkeys particularly so—and show the development distinctly marked in their skulls. Different nations show this faculty in singular ways. The Carib Indians, who are barbarous and savage, are yet loving and affectionate in the care of their young.

FRIENDSHIP.

"*Live not without a friend.*"

"*Friendship, peculiar boon of heaven,*
The noble mind's delight and pride,
To men and angels only given,
To all the lower world denied."—SAM'L JOHNSON.

An illustration of Friendship. All the social faculties are well developed in the above portrait. Friendship is particularly active.

FOR TEACHERS.

DEFINITION.

Friendship, love of family; sociability; attachment; gregariousness; love of kin, company, and society; ability to make friends.

LOCATION.

The organ is located partly in the first, and partly in the second, occipital convolution, above Conjugality and the upper part of Philoprogenitiveness, and between Combativeness, Continuity, and Inhabitiveness.

DIVISIONS.

Friendship is divided into three parts: the lower portion gives sociability; the central portion, love of family; the upper portion, gregariousness.

The Physiognomical Sign is breadth in the lower part of the nostril; fulness of the chin; roundness of the eyes.

QUESTIONS ON FRIENDSHIP, OR ANHÄNGLICHKEIT.

[Localized by Dr. Gall.]

(a) Definition. (b) Locality. (c) In what way do children show strong Friendship? (d) What is the result when persons have very little of this faculty? (e) How must we cultivate and restrain it? (f) How do animals show Friendship?

(a) Friendship is the faculty which gives us the inclination to form attachments for special persons whom we call friends. It makes us desirous of being in their society and of having them constantly near us.

(b) This faculty is located on both sides of the backhead, just above, and outward from Philoprogenitiveness.

(c) The natural language of Friendship is shown by some children in their actions, some by their word, some

by their eyes, some by the shake of the hand. Sometimes you see together two girls, and two boys walking arm in arm, and sometimes a little girl and boy, each couple being ardently attached to the other; while many become so exclusively friendly with one particular mate that they never enjoy going anywhere half so much if he or she—as the case may be—is not also asked. Sometimes this kind of friendship makes matters very awkward for those who cannot ask two, where only one is wanted to make up the number in a pleasure boat, at the tea-table, or a seat in a carriage for a drive. Little children who have large Friendship are a little unreasonable when they pout, cry, and refuse to go anywhere when they find their friend is not to be invited. Some show this faculty to be so strongly developed that attachments early formed remain through life. Business partnerships are often made with friends who have proved themselves friends in need. We know of one lady teacher who left a good position in a first-rate college because her bosom friend was obliged to leave: and as they had always taught together they did not mean to be separated. They afterward took two situations as teachers in another school. When you boys and girls grow older, you will settle down in homes of your own, and some of you will go to localities where friends live, to gratify this faculty. The same is true of new districts and countries; people have banded themselves together to explore wild and uncultured parts, and have clung to one another tenaciously. The members of that noble party who sailed away with Columbus in 1492, you remember, must have shown a wonderful amount of friendship and strength of attachment toward each other to thus venture across the seas to an unknown land. What beautiful

biblical examples of friendship we have in David and Jonathan, Paul and Barnabas, and Ruth and Naomi! Such friendships often cost much anxiety and pain, but they also yield intense joy and happiness, and mutual help. Therefore, continue, children, to form good friendships, but at the same time strive not to be selfish over them.

(d) Some children have the upper part of this faculty fully developed, while the lower part, giving constancy to one friend, is small, make acquaintances easily, but have no one in whom they can confide or call a friend. They simply form passing attachments for those whom they care nothing about when they are away from them. They would not grieve were they to see them no more; for they say, "There are more people in the world who are just as nice, and what is the use of making friendships which take so much time to keep up?" Although this faculty needs to be under the control of other faculties, it is better to have too much than not any. How cold-hearted you would be if at your school recesses you went away by yourselves and entered into no games with others, but all had skipping-ropes or played your own game separately; how much fun, enjoyment, and social intercourse you would lose! Just fancy what the world would be without a fully developed organ of Friendship! Our home lives would be very different. We should, in that case, feel no inclination to form societies for mutual improvement, for we should all try the plan of working out our own improvement by ourselves; and should have no cricket, boating, tennis, or debating clubs, bands of hope, sewing circles, or home benefit evenings.

(e) Some feel intuitively drawn into society, and such have large Friendship; others only like social intercourse

when Inhabitiveness can be gratified, and they can invite their friends to their homes. Others, again, have very small Friendship, and are never particularly social unless drawn into company, and then they sit in the corner.

(f) Notice this quality in birds, ducks, bees, sheep, beavers, dogs, and other kind of animals. You all know how amusing it is to see birds flying in large numbers across the country to their winter quarters, or to watch bees swarm by thousands, or see chickens scratch together, and ducks follow each other in dignified succession along the road-side. I knew of one family of ducks which daily travelled miles in this processional style. Friends noticed them when walking over the moors on the main road, and they never saw a solitary duck travel alone, but always a number together. Sheep also flock together in the fields; dogs, however, are more intelligent, sagacious, friendly, and companionable, and show their friendship to man rather than for mates of their own species. Doubtless, we could all relate in our own experiences, stories about Bobbys as loving and devoted as was the Gray Friars' in Edinburgh. It is wonderful, when carefully examined, how true to phrenological development animals' skulls are found to be.

CONJUGALITY.

"*Happy they, the happiest of their kind,*
Whom gentler stars unite, and in one fate
Their hearts, their fortunes and their beings blend."
—JAMES THOMSON.

An illustration of Conjugality. Wallace Nelson, aged eight years. Conjugality is fully represented in the above portrait.

FOR TEACHERS.

Conjugality, desire to marry and to have a companion in whom confidence can be placed; constancy; union for life; duality and exclusiveness of love.

LOCATION.

The organ is located in the second and third occipital convolutions, above Amativeness, below Friendship, and on each side of Philoprogenitiveness.

DIVISION.

Conjugality is divided into two parts: marriage, on the inner side; and constancy, on the outer side.

The Physiognomical Sign of this organ is a full under lip, sometimes amounting to a projection of it beyond the upper, and is sometimes called the jealous lip, because the person wants all or none of another's affection, and often calls out the expression, "a broken heart," which means unsatisfied love or affection. It is also seen in the dimple in the centre of the chin (the desire to be loved).

For Children.—Questions on Conjugality, or Union for Life, or Eheliche Treue.

[Localized by Vimont, O. S. & L. N. Fowler.]

(a) Definition. (b) Location. (c) How does this faculty differ from Amativeness? (d) What animals show this conjugal instinct, and what animals show a lack of it? (e) How must this faculty be cultivated, and how restrained?

Answers.

(a) Conjugality is the faculty which gives you the mating instinct. Many of you while yet children show it. Your hearts yearn for a companion in whom to confide, with whom to walk, talk, and exchange love. Many

have, in years gone by, been known to remain true to their childish attachments, and never to have regretted following out the instinct prompted by this faculty. Its expression makes it one of the most beautiful organs in the social group, whether it is shown in youth, middle age, or maturity. It is the foundation of everything pure and unselfish in your natures, and makes you unconscious of your own wants until those of your loved ones have been first supplied. Its sentiments have been more often written about, both in prose and verse, than any other; for it stimulates the poet, the author, and the artist. Many of your other faculties are beautifully expressed in characters—as, for instance, Benevolence, Sympathy, Spirituality, and Faith; but Conjugality is like a planet around which all the other faculties seem to stand as moons or satellites in comparison.

(b) You will find this organ located in the lower part of the back-head, on each side of Parental Love, above Amativeness, and below Friendship.

(c) This faculty differs from Amativeness, though it is closely related to it. It acts independently, and is often large when Amativeness is imperfectly developed. "Though we have the organ of Amativeness, which leads the brother and sister to love each other, and gives a love between the opposite sexes, leading them to marry, yet we also need that portion of the brain called Union for Life, which is close to it, and is a more elevated faculty than Amativeness; for persons having only the latter, though they marry, often live unhappily together; but if Conjugality is large, the persons always adhere to each other through weal or woe; are desirous of sharing all their joys and sorrows, and of being constantly in each other's society."

(d) Among animals and birds this faculty is distinctly shown, especially by the lion and eagle, who remain faithful to their chosen mates for life. Doves and robins, and certain kinds of monkeys, also show this singleness of attachment, examples of which establish the fact that Conjugality belongs to the animal kingdom as well as to the human. Nearly all our domestic pets are deficient in it; they do not choose mates, but associate with all.

(e) Just a word or two about cultivating and restraining this important faculty. To cultivate Conjugality, dear children, you must avoid being fickle or changeable in your attachments. Do not take up or fancy you are in love with every new face that comes into your circle because it is pretty. To restrain this faculty go and play with the homely girls and boys, and think a little before you show too much regard for one mate or the other. Think first what character you want your friend to possess, and, when such a one has been found, do not let circumstances or atmospheric changes alter your regard. Some of you children may have already experienced twinges of jealousy or sensitiveness when your special little friends have slighted you a little, or you have fancied they have forgotten you. Take care, and do not exaggerate these tender feelings.

(f) This faculty gives a beautiful sentiment and coloring to the other faculties.

AMATIVENESS.

"*Things base and vile, holding no quantity,*
Love can transpose to form and dignity;
Love looks not with the eyes, but with the mind,
And therefore is winged Cupid painted blind."

—SHAKESPEARE.

An illustration of the Social Group — Amativeness. Fred. E. Bœhm, a fine, healthy child, who is affectionate and friendly; one who loves to be petted and delights in having animals around him. The cerebellum is fully developed.

FOR TEACHERS.

DEFINITION.

Amativeness, regard for the opposite sex, and desire to be in their company.

LOCATION.

Amativeness is located in the cerebellum, under the posterior lobes of the cerebrum, an inch below Conjugality, under the occipital bone.

DIVISION.

Is divided into two parts: passionate love, in the centre, adapting mankind to the continuance of the race; love of sex on the outside, toward the ear, giving the desire to caress and fondle, to exchange thoughts and feelings with the opposite sex without reference to marriage.

The Physiognomical Sign is found in the animated blue eye, the full lips, the gently arched eyebrows, the round, full chin, an expressive countenance. The features immediately express the mental feelings of love, and it is difficult to hide or deceive this trait. And a fulness on each side of a dimpled chin.

For Children.—Questions on Amativeness, or Zeugungstreib.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How do little boys and girls show this faculty? (d) What influence does it exert? (e) How can you cultivate and restrain it?

Answers.

(a) This faculty is the organ that inspires in your minds the love of one another. Boys are attracted to the

society of their sisters and their sisters' friends; while girls become interested in the society of their brothers and their brothers' friends, as well as in their father's company. It unites, as no other faculty can, the physical and mental charm and instinct.

(b) You will find this faculty located in the cerebellum, or little brain.

(c) When about thirteen and fourteen, boys and girls approach manhood and womanhood, and begin to act in accordance with these ideas. They suddenly become more thoughtful, and show many acts of kindness to their friends of the opposite sex, and do all in their power to make those they love happy. Little girls with this propensity largely developed love to nestle in the big, strong arms of their papas; they delight to be petted and kissed, and there is often a struggle among our little friends to get the first kiss on father's knee when he returns home from business; and the boys are equally pleased to see the miniature struggle, and seek their mother's side on their return home.

(d) This faculty plays a most important part in the completion of your characters. It exerts a kind, genial, and refined influence in society, and kindles in each an interest in what most concerns the other. This power to soften all that is harsh, forbidding, and unsocial in others must not be confused with the sentiments prompted by friendship, sympathy, and other similar sentiments, for each faculty has its distinct function, as you will understand better when you compare them in your own characters. Under proper control, this love-giving faculty is, next to Conjugality, one of the most beautiful and interesting features your characters possess.

(e) Dear children, do not be persuaded that this is an unnecessary or "bad organ." We have really no "bad organs;" it is only the perversion of faculties that makes you fall into error. This power is one you must study in its highest and fullest sense, and you must get the purest minds to talk with you about its proper cultivation or restraint in your characters. Some of you have not enough of it; hence are cold-hearted, unsociable, and uncongenial, when you are persuaded to go into company. You are what some people call shy, and do not trouble to do anything for others with a "good grace," if you can possibly avoid it. You will find that when the faculty is large, boys will show more kindness, gentleness, and affection toward girls than toward boys. If this were not so, we should be nearly destitute of the action of Amativeness; and the more we study character the more we see the necessity for a full degree of it as boys and girls enter manhood, marry, and settle into their homes, and enter trades and professions. Into whatever occupation a person is called, be it as a doctor, minister, or in a business pursuit, he will be better able to get at the heart of his patients, his audiences, or his customers, in mixed society, if he possess the genial influence of this faculty. The spiritual and intellectual talents of all of you who intend to become ministers of a live religion need the quickening influence of the social faculties in order that you may understand the practical wants of the people in home-life. But take care you do not waste this faculty in worthless ways, where it cannot be appreciated or understood. When unduly developed, Amativeness can be controlled in several ways—by making a study of your lives; by avoiding excitement of a social nature, refusing stimulating food and drinks; by keeping your-

selves in a healthy condition of body; by daily baths and exercise in the open air; and by calling upon the other faculties—the intellectual, moral, and executive powers—to occupy the thoughts and entertain the mind. When you come to examine the brains of animals for yourselves, you will find that in them the cerebellum, or little brain, is much larger in proportion to the cerebrum than in man's brain. In children the little brain is smaller in proportion to the other part of the brain, and their heads are correspondingly flat and narrow posteriorly between the ears.

A little boy who has a real love for his sister will help her carry her books to school, or hold his umbrella over her when it rains, but, if he has no affection for her, he hurries off to play and does not think of paying any attention to her wants. A little girl, when this faculty is large, will love her brother so much that she will help him mend his kite; find his cap, and fishing tackle. When she has but little love in her nature, she considers her brother a bore, and cannot be troubled to help him.

Amativeness combines with the intellectual faculties, and gives mental coloring, vigor, intensity, and warmth to literary work, mechanical genius, and moral principle. Not that it gives literary ability or moral worth, but it intensifies the love of work, and sends a glow, an electric spark, through the working material of the brain in all directions. Unfortunately it helps the ungoverned faculties as well as the æsthetic ones. Therefore, there is beauty in knowing something about the combined influence of the faculties, so that they may be cultivated aright.

CONTINUITY.

"*It is better to say, 'This one thing I* do,' *than to say, 'These forty things I dabble in.'*"—WASHINGTON GLADDEN.

"*One talent, well cultivated, deepened, and enlarged, is worth a hundred shallow faculties. The first law of success at this day, when so many matters are clamoring for attention, is concentration, to blend all the energies to one point, looking neither to the right nor to the left.*"—MRS. A. D. T. WHITNEY.

Photo. by George Rockwood.

An illustration of Concentration. Continuity is represented in the above portrait as small. We may learn as much from the moderately developed faculties as those that are large and active.

For Teachers.

DEFINITION.

Continuity, application ; connectedness of thought and feeling; ability to hold the mind to one process of mental action; concentration of attention; patience to work or wait.

LOCATION.

The organ is located in the upper part of the first occipital convolution; above Inhabitiveness and below Self-esteem, and crossed by the parieto-occipito fissure.

This organ is located in that part of the brain localized by Dr. Ferrier as the centre for sight or concentration of attention.

DIVISIONS.

Continuity has two divisions: connectedness, the outer portion; application, the central part.

The Physiognomical Sign is found in the length, from the nostril to the upper lip, and the depth of the lines there.

For Children.—Questions on Concentrativeness, Continuity, or Beharrlichkeit.

[Localized and divided from Inhabitiveness by George Combe.]

(a) Definition. (b) Location. (c) How do children show Continuity when large? (d) How do children show a want of it? (e) Why is it necessary to cultivate Contin-

uity? (f) How must it be cultivated and restrained? (g) Does it help the other faculties? (h) What do we learn from the social group as a whole?

Answers.

(a) Concentrativeness or Continuity is the faculty which gives connectedness of thought and feeling, and inclination to fix the mind upon one subject until it is finished.

(b) This faculty is situated above Inhabitiveness and below Self-esteem.

(c) Some children have this faculty very fully developed, so much so, that they easily become absorbed in what they are doing, and dislike to be called off. Some boys become so deeply interested in chemistry that they lose consciousness of what is going on around them. Some go fishing and sit and watch their line for hours, yet they cannot be persuaded to give up their pursuit; some sit down and read a story-book, and they, too, become so absorbed that they forget all about what they were asked to do in the morning for mother. Some show their Continuity in making wonderful and beautiful collections of butterflies, and geological and botanical specimens.

(d) We have found more children who have to cultivate Continuity than restrain it. Some children cannot get on with their lessons at school, because they say they are too difficult, when a little application would overcome the hard points at once. One little boy, named Robbie, could not learn his history lesson—the dates of the battles would not stay in his mind; his teacher came up behind him, and asked him how he was getting on?

"Oh, sir, not at all well; I forget the dates and the generals' names as soon as I have learned them." "Well, Robbie, my lad, I can tell you the reason. All the time you ought to have been studying your lesson, your mind and attention have been out of doors in yonder field where the boy is flying his kite. You could tell me perfectly all about the attempts he has made to clear his kite and keep it up, but your lesson has been neglected. There still remain ten minutes before recess; let me see how much you can learn in that time, and then you can devote half an hour to flying your own kite, and to enjoying yourself heartily." The secret is thus told, how children, by allowing their minds to wander first from one thing then to another, fail to accomplish anything that is worth much. Lucy was a clever child, a very clever girl, and her parents were justly proud of her; but her greatest fault was, she would not settle her mind to do anything for long. She became passionately fond of drawing when she was eight years old, and was not satisfied until she had a drawing-board and some hard and soft pencils. About two years after, she had gone far enough with drawing to find out that it would require years of study, with all her genius, to make herself proficient in it. She then began to take music lessons, and got on remarkably well for several years, then gave it up; she got tired of practising her exercises, and she found she could not play her pieces without, so thought she would begin fancy work. She bought her silks and wools and began her work, but she found it required so much application, she wearied of it; and as all the girls were learning singing she wanted to begin; so she took singing lessons of the best master in the town of S. She persevered for a time, but the same difficulty met her

here; a want of application made her interest flag, though many said she might have made a very successful singer. Her friends urged her to continue her practising, but her mind was wandering yet after some ideal work in which she could use her talents without putting forth much industry; and she will never find it.

(e) It is necessary to cultivate this faculty of Continuity when small or inactive, because spasmodic effort, even when accompanied by genius, fails in the long run to accomplish such good work as when done by consecutive effort, by a steady hand and persevering eye. The builder with his bricks and clay, the painter with his colors, the architect with his designs, have all to go steadily through a certain amount of drudgery. A writer in penning page after page of his book, a musician in practising his voice and fingers, a professional man in pursuit of knowledge, must all have application of mind in order to raise themselves above the mediocre school.

(f) A happy medium is what is wanted, and what must be striven for. Without its help we can do nothing truly great; for without it one is apt to begin too many things, as Lucy did, join too many societies, read only the short paragraphs in the papers, and send too many telegraphic messages in the place of letters. But with it to an extreme, persons often become a bore in society by dwelling on one subject all the evening, or on one sorrow, or one loss in business; so that we must cultivate and restrain it by watching its workings upon the character.

(g) It helps nearly every other faculty of the mind in some way. It greatly assists Eventuality and Form, to remember the consecutive spelling of long and difficult words; it aids Order, Causality, and Acquisitiveness especially.

(h) We have now come to the close of the social group. Think a minute, children, over what you have learned from these six faculties. First of all you found that there was a faculty that corresponds to the love that springs up in your hearts for one another; then, one that gives a clinging devotion between a husband and wife and makes them leave everything to live for each other; that there is another faculty that makes a mother sacrifice a great deal for the sake of her children, especially when they are too young to do anything in return; that another faculty draws friends together by a strong bond of attachment; and that joined to these we learn to cherish home, the family circle, and all that makes its memory dear; and also that we are consecutive in our thoughts and continuous in our plans, our work, and our affections. We must cultivate these faculties aright, and allow them to be the foundation of all the other faculties, and life will be a source of joy, and homes will be made happy and bright.

CHAPTER XI.

THE MORAL AND RELIGIOUS GROUP.—"I RESPECT."

The moral and religious group comprise six faculties, which are: Benevolence, Firmness, Conscientiousness, Veneration, Hope, Spirituality.

As the selfish faculties are necessary to look after the interests of the body, the moral faculties attend to the spiritual requirements of our natures. They humanize, adorn, and ennoble; they raise, purify, and elevate us out of thoughts simply upon the present, into contemplations of a future life and hope.

For Teachers.

DEFINITION.

Firmness, power of will; decision; perseverance; fixedness of purpose; positiveness; tenacity of mind; stability.

LOCATION.

In the ascending parietal convolution, bordering on the fissure of Rolando.

DIVISION.

Firmness is divided into three parts: power of will, the lower or back part; stability, the central portion; perseverance, the front part.

FIRMNESS.

"'Tis with our judgments as our watches; none go just alike, yet each believes his own."—POPE.

An Illustration of Firmness. There is great determination expressed in the above portrait.

The Physiognomical Sign is seen in the closely set lips.

FOR CHILDREN.—QUESTIONS ON FIRMNESS, OR FESTIGKEIT.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) How does the importance of this faculty show itself? (d) What does the per-

version of this faculty lead to? (e) Who have shown this faculty large? (f) What animals indicate that they have this faculty large? (g) Why are some people easily persuaded? (h) Do great undertakings require more than ordinary perseverance and firmness of purpose?

Answers.

(a) The definition of Firmness is usually will-power, ability to decide and keep to a certain decision; perseverance; fixedness of purpose; tenacity to hold to an idea; obstinacy, if allowed too much control.

(b) In front of Self-esteem, and behind Veneration, on the top of the head.

(c) The importance of this faculty shows itself in the tempers of children, and is a faculty which requires great control and careful management by parents and teachers. Children should be taught how necessary this faculty is, yet how difficult to discipline without their help.

(d) When perverted this faculty leads to the greatest trouble to the person, and all around or connected with him. Boys and girls who are stubborn, obstinate, perverse in their ways, are unenviable little creatures. There is, however, a difference between being firm and being obstinate. Every one should know the difference.

(e) Look again in your histories of the lives of great men, and you will find such characters as Washington, Bruce, Columbus, Beaconsfield, Livingstone, had large Firmness, which showed itself in indomitable resolution. Though other faculties encourage and work with this faculty, still it is the keynote to perseverance and decision of mind.

(f) You have probably noticed what animals have shown this faculty. The spider is a remarkable exam-

ple; for facts about it read the life of Robert Bruce and the incident with the spider.

(g) Some children are easily influenced, even against their reason and better feelings, through not properly exercising this faculty. Some are always wavering and

An Illustration of Firmness—No. 2. Frederick William Allen.

undecided in what they do. Many boys are as uncertain and unstable in their actions as the will-o'-the-wisp. Such are generally the dupes of everybody, and made to do just as the stronger will desires.

(h) All great undertakings require a large amount of this quality in order to surmount difficulties, overcome encroachments, and start fresh enterprises.

You will now have seen, by these simple explanations of our various faculties, that the selfish propensities and moral sentiments have been given to us for some practical good; that every organ is needed to yield its share in making our characters complete. You will also see that we are obliged to have a daily fight with our strong and weak powers in order to keep them in anything like a harmonious condition. We need, therefore, to study ourselves, so that we may criticise our own conduct, so that before any one points out a defect we may have already corrected it. One great advantage that young people gain in studying phrenology is the knowledge of how one faculty helps another, and how beautifully they blend when naturally developed.

CONSCIENTIOUSNESS.

"Be resolutely and faithfully what you are, be humbly what you aspire to be. Be sure you give men the best of your wares, though they be poor enough, and the Gods will help you to lay up a better store for the future. Man's noblest gift to man is his sincerity, for it embraces his integrity also."—THOREAU.

An illustration of Conscientiousness.—Adams O. Ballard. The above portrait indicates a large development of this organ.

FOR TEACHERS.

Conscientiousness, sense of justice; obligation; equity; accountability; moral principle; integrity; faithfulness; consistency; circumspection; regard for duty.

LOCATION.

In the superior anterior parietal convolution, an inch on each side of Firmness.

DIVISION.

It is divided into three parts: the upper portion gives justice; the central part, integrity; the lower part, circumspection.

The Physiognomical Sign is found in the lines that form between the eyes; they are four or five in number. Two perpendicular lines distinctly set between the eyes indicate a love of justice.

FOR CHILDREN.—QUESTIONS ON CONSCIENTIOUSNESS, OR GEWISSENHAFTIGKEIT.

[Localized by Dr. Gall.]

(a) What is the definition of this faculty? (b) Where is it located? (c) What is its natural language when large? (d) What does the lack of it indicate in a child's character? (e) In what characters do you see this faculty prominent? (f) How must it be cultivated? (g) How does this faculty act with the other organs? (h) When large is there any peace in the heart of the sinner? (i) Do hardened criminals show Conscientiousness? (j) How do children become tempted to hush the voice of conscience? (k) How must one avoid the excess of this faculty when morbidly developed; and how must it be cultivated when small?

Answers.

(a) The definition of this faculty, like Firmness, explains itself. We all have a conscience—or ought to have—and this conscience is a monitor or regulator to our actions and thoughts. A monitor, you know, is a person put in charge to watch over others, and he is responsible if things do not go on right. So we call Conscientiousness our moral watch, or guide. It has a regard for duty and justice; a sense of obligation and a knowledge of right and wrong principles. It makes a child feel accountable for his own actions. It gives faithfulness and consistency to conduct, and compels him to do right even when evil temptations endeavor to persuade him to do differently.

(b) You will find this organ located each side of Firmness, in front of Approbativeness, and back of Hope.

(c) This faculty when excessive in a child makes him particularly anxious to act uprightly in everything, and equally desirous of making others do the same. Mary's Conscientiousness is very large, and her judgment of John's conduct is very severe: she is always criticising him for not doing what she says is right, and is unforgiving whenever he fails to keep his promises to the letter. She adheres tenaciously to what she thinks is her duty, and errs on the side of morbidly blaming herself if she has fallen one iota below her standard. Her guilt and sins weigh so heavily upon her that she often feels she cannot be forgiven. Mary is so strictly consistent herself in what she says and does that she cannot understand what makes some people say one thing and mean or do another.

(d) The lack of this faculty in Joe's character shows

just the opposite disposition. He is unfortunately disposed to go astray, and never seems penitent over his shortcomings, seldom feels any obligation to do a thing from principle, and just follows his impulses and desires without thinking whether he is doing wrong, and is not often troubled when he makes a deviation from duty. It is sad to see how untruthful he is and how little he cares about his conduct toward others. He will grow up into a very reckless man, faithless in his promises, and with his large Benevolence, will be unscrupulous in the way he spends his money. He even gives it away when he knows he will need it for himself.

(e) You find this faculty large in boys who eventually become good financial agents; good contractors; high-principled lawyers; statesmen like Washington; and also in spiritually minded ministers, scrupulous business men, etc.

(f) This faculty can and must be cultivated through great care being bestowed upon those children who lack it, by exerting a strong influence over them while they are very young, that they may cultivate and excite what conscience they have and use it prominently. This faculty can be called out by encouraging children to tell their parents their ideas of right and wrong, especially when they have done wrong; but not by punishing them with the rod, for all the responsibility is then thrown upon the parent, while the child only feels the punishment but does not always see the principle involved. Encourage them to maintain the right through all odds.

(g) This faculty of Conscientiousness, my dear children, when large, acts with each of your different faculties. With Approbativeness it raises your ambition to a desire to receive a just estimate of character and work;

with Acquisitiveness it makes you just in receiving proper accounts and dues, but no more; just in the division of apples and cakes; with good perceptive faculties it makes you accurate judges of estimates, inclines you to give good weights and measures in business. Conscientiousness with Language and powers of debate, makes you give just arguments and an accurate statement of facts; it will not allow false impressions to be made without correcting them. With Firmness it gives you great strength and tenacity to hold to your opinions of right and wrong; with Comparison, Causality, and Human Nature it helps you to form correct conclusions and see differences; with fairness, giving a right balance to your judgment, and enabling you to have an accurate insight into the future; with Friendship it inclines you to stand up for friends when their characters are maligned, while without some treat their friends in a shabby way; with Self-esteem, you want justice done to your own opinions.

(h) When large the sinner or guilty soul has no peace; though the wrong may exist for years, still, sooner or later, conscience has its sway and must find vent. There are many cases of children who have been led away by alluring temptations, but afterward have confessed their wrongdoing and gained the sweet relief of a clear conscience.

(i) Hardened criminals and even little children who have early become dyed in sin do not show much, if any, of this faculty, unless their selfish faculties have overinfluenced for the time their moral consciousness; in such a case there is hope that they will be brought to see the true light of their actions.

(j) Children are more tempted to disobey their con-

science to gratify their appetites than anything else; hence it was large Alimentiveness that inclined Lucy to take some of the grapes that were put on the sideboard for dinner, though her mother had forbidden any one to touch them before they were put on the table. When the dessert was passed round, her mother remarked that some of the grapes had been pulled. She suspected some of the younger children, and asked Jacky if he had been a naughty boy and disobeyed her. "No, Ma," said Jacky, "I really didn't taste any, though a wicked voice said I might try just one." Lucy's conscience could stand it no longer, so she said, before them all, "Mother, I am the disobedient child, for I was tempted, and I did not resist the desire, though I knew we should have some at dinner; but they do not taste at all nice now."

(k) You must guard yourselves from being too exacting. Do not see faults where there are none. Do not carry your anxiety to do your duty to an excessive extreme. Cultivate a forgiving and lenient spirit, especially toward the minor weaknesses and failings of others, and avoid the torments of undue condemnation. At the same time, do not, if the organ is small, shirk the right course because it is difficult. Do everything upon principle and keep your conscience bright.

VENERATION.

"*More things are wrought by prayer, than this world dreams of.*"—TENNYSON.

"*Live not without a God! however low or high,*
In every house should be a window to the sky."

—W. W. STORY.

An Illustration of Veneration. Large Veneration is indicated in the above portrait.

FOR TEACHERS.

DEFINITION.

Veneration, adoration; aspiration; sense of holiness; respect for superiority and greatness; age and antiquity; filial love; dependence; disposition to serve and obey.

LOCATION.

The organ is located in the superior part of the brain, on the ascending and frontal, and bordering on the ascending parietal convolutions; between Benevolence and Firmness.

DIVISION.

Veneration is divided into three parts: the back part, love of antiquity; the central part, love of worship; the front part, respect.

The Physiognomical Signs are seen in drooping eyes.

For Children.—Questions on Veneration, or Verehrung.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) What influence does this organ have when large? (d) Who should call forth Veneration in children? (e) What different kinds of gods are worshipped? (f) In whom do we see large Veneration? (g) What are the indications of small Veneration? (h) To what does the excess of this faculty lead?

Answers.

(a) To have respect for, and to recognize a superiority in one's elders; to be conscious of a higher power, a Divine Spirit who governs the universe. It gives the spirit of adoration, devotion, reverence, and deference; also a regard for sacred things, anything old or ancient.

(b) Between Firmness and Benevolence, which is immediately in front. It is the centre of the top-head—emblematic of the highest and most exalted position in the brain.

(c) Children who have this faculty large feel their utter dependence upon their elders. They feel their unworthiness when compared with the divine character of their Creator, who is shaping their lives. They are respectful to their superiors, deferential to old and sacred relics, and are worshipful, quiet, devotional, and inclined to pay strict attention to all due forms and ceremonies connected with religious exercises. Children are often more careful in carrying out the letter in religious forms and ceremonies than when they grow older. They stand in great awe of God, yet love to adore Him like a father, and feel His eye upon them continually. They also respect the aged and are mindful of their wants. When grandma is in the room the door is never slammed. Veneration often makes a little girl shy if she is asked to go into the company of older people. Emily never lost her shyness, her elder sister said; even when she mixed with her equals on an equality, she always undervalued herself and venerated her friends beyond their due. She also paid great respect to places of worship, and had a sense of the holy and sacred.

(d) Parents and teachers should call out this faculty in children when it is deficient, by encouraging those under their care to show true and proper respect while young. Elders are much at fault in this respect, and should examine their conduct before their children more closely. It is too late to ask your son at twenty-one why he has no more respect for you when you have taken no trouble to encourage that feature in him.

(e) We venerate things, as well as persons. Our veneration for God as our Father leads us to have an admiration for all the things He has created. We admire the flowers, the hills, the valleys, the picturesque river-sides, the glorious sun, moon and stars. Many nations worship the last three, besides many kinds of animals, like the crocodiles, etc., to which the women of the East throw their little babes; also images made with hands, whom they call gods. We also venerate old works of art, old ruins, and old books and relics.

(f) We see large Veneration in boys who eventually become members of the Antiquarian Society; also in members of the High Church party.

(g) Children without this faculty are generally disobedient and disrespectful, and seem to have no regard for their superiors; especially do we find this the case with boys, who speak to their fathers and mothers as though they were their schoolmates. They are rude and noisy when visitors call, and inconsiderate in what they do and say. They destroy the old without any regard to sacredness. In fact, it is small Veneration that makes boys delight in giving annoyances and seeing aged cripples in distress. Boys also whistle and throw balls of paper at the very times and places when they should not, and talk lightly of religious matters, and have but a superficial notion of Divinity, instead of a deep, all-pervading one.

(h) An excess of this faculty, remember, unless carefully guided by the other faculties, leads to superstitious worship and idolatry; it also gives deferential worship to things and persons unworthy of it, and leads to abject adoration, instead of loving, joyous, inspiring respect and devotion.

HOPE.

"*Hope is the wing by which the soul ascends.*"

"*Take short views, hope for the best, and put your trust in God.*"—SYDNEY SMITH.

An Illustration of Hope. The above portrait is a perfect embodiment of Hope or joyousness, which is to be seen in the head and face.

FOR TEACHERS.

DEFINITION.

Hope, sense of immortality and of the future; expectation; anticipation; speculation; enterprise; cheerfulness; buoyancy; elasticity of mind.

LOCATION.

In the ascending parietal convolution, where the elevator muscles are affected. It is behind Spirituality, and in front of Conscientiousness.

DIVISIONS.

It is divided into three parts: the upper portion gives a love of the future, the middle gives a love of the present, and the lower part love of speculation.

The Physiognomical Sign is found in lines turned upward from the mouth.

FOR CHILDREN.—QUESTIONS ON HOPE, OR HOFFNUNG.—"I HOPE."

[Held by Dr. Gall as probable, but localized by Dr. Spurzheim.]

(a) Definition. (b) Location. (c) What is the function of this faculty? (d) Do children exhibit this faculty? (e) How do they show it in relation to the future? (f) What does excessive Hope lead to? (g) How do children show a want of Hope? (h) How do other faculties act with this one? (i) How must this faculty be restrained and cultivated?

ANSWERS.

(a) Hope is an anticipation of things to come, of success, of pleasure in store.

(b) On each side of the head, directly in front of Conscientiousness and behind Spirituality.

(c) The feature of this faculty in children is to help them to see the silver lining in every cloud. It enables them to see ahead, and realize their wants and desires beforehand. It causes them to plan out pleasures with reference to the future.

(d) Yes, children show a great deal of this faculty, and they help to scare away the anxieties and worries of older people by being light-hearted and merry.

(e) Children show Hope in regard to the future by always looking forward for surprises, and thinking of the time when they will be their own masters and mistresses. They are full of their schemes for succeeding in all their plans. It is well the veil is not lifted very early for them to see what disappointments they will have, and what extra exertions they will have to put forth, or their ardor would be greatly dampened, and their spirits be often crushed. It is beautiful to see their bright, beaming faces full of anticipations of the morrow. Hope gives an open countenance, and not only inclines us to look forward to present days as they pass, but also inclines us to think of a future hope, when the spirit returns to God who gave it. This hope makes a child lay up treasures in heaven. It is called the anchor of the soul.

(f) Excessive Hope stimulates to a speculative turn of mind in children. It makes them blow their soap bubbles too large; it makes them expect things that are unreasonable and improbable. They are seldom, if ever, cast down by disappointments and failures, or present troubles and difficulties. Such children are always putting their thoughts into to-morrow, which is as certain to them as to-day.

(g) No; all children do not show this faculty. When

small the want of it is soon perceptible by low spirits and melancholy ideas. They never feel enthusiastic about what they are doing; they never anticipate success at school or in business, but mainly think of every possible failure.

(h) With Approbativeness a child hopes for distinction, admiration, and praise; with Acquisitiveness large, he hopes to become wealthy; with large intellectual faculties he hopes to rise in his profession; with Cautiousness large, and Hope small, he is over-timid, shy, and reserved. In every kind of work and in every station in life it is necessary to the happiness of all to possess this faculty. The mere anticipation of many hopes gives more happiness sometimes than the realization; but there is great satisfaction even then.

(i) In order, children, to cultivate this faculty you must seek the companionship of lively, joyful society; do everything, in fact, to cultivate buoyancy and sanguineness of mind. Your motto should be "Nil desperandum." To restrain Hope you must keep in check over-exuberant feelings of success; allow your judgment to guide you in all things; keep a guard on your desires to speculate, and let your conscience lead your inclination to go ahead too fast on mere supposition.

We now close the moral, religious, or spiritual group, which occupies the highest place in the brain, as it exercises the highest influence over the other faculties. The mind becomes elevated and broadened through the moral sentiments, and little children learn to look up through them, as through open windows, to holy and heavenly things above. This group was wisely designed to guide and control the intellect, the reason, the passions, and selfish desires. We have a conscience to tell us

when we are right or wrong; a reverence and worship for God and His holiness; a spirit of belief in things unseen; a sympathy for the desire to benefit others; and a strong hope to encourage and cheer. A balance of all is necessary to give harmony to the moral faculties.

SPIRITUALITY.

"*Faith is the Christian's foundation, and hope is his anchor, and death is his harbor, and Christ his pilot, and heaven is his country.*"—JEREMY TAYLOR.

An Illustration of Spirituality—Theo and Carl Miller. The organ is specially large in the older child.

For Teachers.

DEFINITION.

Spirituality, faith; trust; impressibility; belief in providence, in spiritual guidance; confidence in partially developed truth; love of the new, novel, wonderful, and spiritual.

LOCATION.

In the ascending frontal convolution; on each side of Veneration, between Imitation and Hope.

DIVISION.

It is divided into three parts: wonder, the lowest part; trust, the middle part; and faith, the upper part.

The Physiognomical Sign is found in four deep lines across the entire forehead which accompany enthusiasm, faith, and trust.

For Children.—Questions on Spirituality and Wonder, or Geistigkeit.—"I Trust."

[Held by Dr. Gall as probable; localized by Dr. Spurzheim.]

(a) Definition. (b) Location. (c) What have children to believe? (d) Should the influence of this organ be cultivated? (e) What singular beliefs do children have when this faculty is highly stimulated? (f) When small, how do children show a want of it? (g) What religious

influence does it have? (h) What does the excess lead to? What is the influence of a deficiency? How must the one be restrained and the other cultivated?

Answers.

(a) The faculty that helps a boy to know things apart from experience or reason—in fact, from inspiration. He realizes the fact that other agencies are at work that move the material world apart from what are visible to the naked eye. It is closely akin to the imaginative faculties.

(b) Immediately in front of Hope, on each side of the head.

(c) There are many things that all of you children have to believe, that you cannot see. One is the working of your brain. You cannot see your own mind think, or any one else's. You cannot see the circulation of your blood, as you can an engine-wheel rotate; but you know it does circulate, and you have only to prick your finger to prove it; but you cannot see the actual process. You cannot see the lungs breathe, but you are conscious they are doing their work. It would be nonsense for you to deny that the earth moved round on its axis every day, because you could not see it; yet you know such is the case. Thus many things about the stars, the rain, the lightning, thunder, sun, moon, snow, and ice, are marvellous and mysterious as far as our physical eyes are concerned; yet we must accept much knowledge that we cannot clearly understand.

(d) Yes; this faculty should be cultivated and encouraged, as we shall see further on.

(e) When large or highly stimulated, this faculty gives

an extraordinary delight in anything marvellous, novel, spiritual. Hence, a child with it largely developed delights to dwell upon the immaterial facts and phases of things; is not satisfied with physical phenomena, but he seeks out the causes that underlie and overlie them, the hidden and mysterious powers that are at work. Clara's mother cannot make her out, for she is always imagining all kinds of unrealities in such a dreamy fashion, and is always creating some new fancies. Tom had large Spirituality, and he grew up to believe in a spiritual existence, a life beyond the physical one. His mind was open to conviction, possessing large Faith; was ready to yield to conviction. You often hear people say children believe all they hear. It is necessary for them to have considerable faith, for their experience is not sufficient to guide them. Unfortunately, some parents and teachers play upon this credulity of children, and tell them, for realities, about the supposed existence of ghosts, etc., until many children, especially sensitive little girls, are positively afraid of going to bed alone in the dark. We cannot help adding here, that if phrenology were better understood by those who govern the nurseries, no one would dare to impose upon one faculty that was large, or depress another that was already small, especially this faculty.

(f) With a small faculty of Spirituality Sam is slow to take a thing for granted; he never will place confidence in anything he cannot understand or see with his own eyes. He does not, as he calls it, "waste much time in thinking upon spiritual things"—in fact, he is incredulous, unbelieving, and unwilling to admit anything; is sceptical, and wants evidence for everything.

(g) This faculty greatly lifts our thoughts and prayers

out of this world into communion with God, and gives wings to our doubts. The prayer of faith has cured many a man. "According to your faith be it unto you:" these were the words of Christ Himself, and Spirituality indorses them.

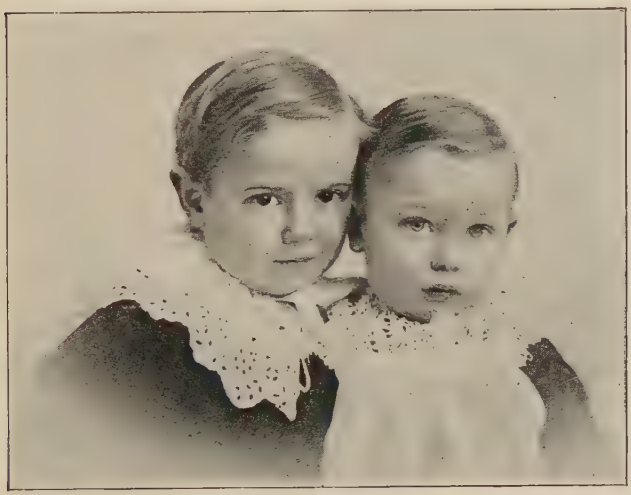
(h) The excess of this faculty, as well as the deficiency, is harmful for peace of mind. You must all examine your side-heads, where Spirituality is located, and find out whether it is a natural development or a cultivated one. Remember that the excess of this faculty, as well as of others, is harmful, and leads to fanaticism and superstition; and this you must endeavor to counteract; while a deficiency leads to scepticism, incredulity, and inability to trust anything new without abundant proof, which you must increase by mixing with those who have it larger than yourself.

BENEVOLENCE.

"*Do noble things, not dream them all day long.*"—KINGSLEY.

"*Have you had a kindness shown?*
Pass it on.
'Twas not given for you alone—
Pass it on."

"*I expect to pass through this world but once. Any good thing, therefore, that I can do, or any kindness I can show, to any fellow human being, let me do it* now. *Let me not defer or neglect it, for I shall not pass this way again.*"



An Illustration of Benevolence. Large Benevolence is indicated in both portraits.

For Teachers.

DEFINITION.

Benevolence, liberality; sympathy; tenderness; kindness; philanthropy; desire to do good; to improve and reform mankind; interest in progressive measures.

LOCATION.

Benevolence is located in the superior or first frontal convolution, beneath the posterior superior portion of the frontal bone, just forward of Veneration, and of the union of the coronal sutures.

DIVISIONS.

The organ is divided into three parts: the posterior part gives sympathy; the middle part gives liberality; the anterior part gives philanthropy.

The Physiognomical Sign always accompanies breadth at the lower part of the nostrils, and deep lines by the side of it; also short lines across the forehead.

For Children.—Questions on Benevolence, or Gutmüthigkeit.

[Localized by Dr. Gall.]

(a) Definition. (b) Location. (c) What influence does this faculty have? (d) How do some of the other faculties influence Benevolence? (e) When small how does the want of it show itself in the character of a child, when

other faculties are large and influential? (f) When excessive or deficient how should parents act in order to restrain or encourage this faculty?

Answers.

(a) Sympathy, kindness, generosity, desire to do good, and make others happy. All of you children learn very quickly who to appeal to for sympathy, and you readily imitate the generous actions of others. This faculty helps you to understand how much your happiness depends upon some one else. Each one of you can add or take away from the enjoyment and pleasures of others in their every-day life.

(b) In the fore part of the top-head, in front of Veneration.

(c) The influence of this faculty is very considerable. Its mission in children is to do little acts of kindness. When not influenced by stronger lower faculties it takes delight in doing good from generous motives. Little girls do such a lot of things for their mothers from motives which seek no reward: they run errands, nurse them in their tender way when ill or weary, and comfort them in numberless ways. Elsie delights in making personal sacrifices, and to make others happy; she cannot bear to see any one suffer pain without relieving them in some way. George is evidently living more for others than for himself. Before going to school he chops the wood and draws the water for his widowed mother. It made Johnnie liberal-minded and full of generous impulses. He had the promise of a pony on a certain birthday, provided he saved a certain amount of his pocket-money up to that time. Just before the time expired his

little brother fell and seriously injured his spine, so that he could not walk about. It was necessary that he should have a special chair on wheels, or hand-tricycle, so that he could get about independently. Johnnie did not love his brother very much, but debated in himself what he ought to do. He finally decided, with a great effort, to give up the idea of having his pony, and of offering his careful savings toward buying the chair for his brother, for he knew that his father could not afford to do both. He then went to his father and told him he would like him to take all his savings, and all he would have spent on a pony for him, and buy his brother a chair or hand-tricycle. His father was delighted with the generous spirit that prompted his son's words, and said: "It is very kind of you to give up what you have been looking forward to for so long. I will do as you like with the money; it will certainly give you pleasure to see your brother move about comfortably, and you can look forward to having your pony in a little while." The father knew that the boy's uncle wanted to give him one of his ponies, but he thought it best not to say so just then. When the uncle heard what Johnnie wanted to do, he was pleased he had such a kind-hearted nephew, and said to himself, "I will reward him after a bit." So the hand-tricycle was bought for James, and Johnnie showed no disappointment that he had given up his pony. Three months after this, on his birthday, Johnnie received a note from his uncle asking him to come over and see him during the day, as he could not conveniently send his present. Well, children, picture to yourselves how surprised and happy Johnnie was to find he was to own a lovely pony. At night he went to his father and said: "I have never regretted giving up my desire on my brother's

account, and now I feel doubly repaid for the sacrifice." He possessed large Benevolence. Agnes and Willie were the best scholars in their history-class; each worked hard to keep at the top. It so happened that Agnes had been at the top some time, when Willie became ill, and was obliged to stay in the house for several days. His annoyance at the thought of having to go to the bottom of the history-class made him worse. Agnes heard that he was ill, and determined to show him that she was not rejoicing in his illness; so she went and offered to read over the lesson (which was a very difficult one) several times with him. Willie was very much surprised at this unselfish offer. When the day arrived for the history-class to meet, Willie was well enough to go, though he had missed every other one in the week. What was more, he knew his lesson perfectly, as Agnes had proved a great help and an able teacher. During the lesson a certain date was asked of the head of the class. Agnes stammered and hesitated, and failed to remember. Willie was asked; he answered correctly, but said: "I would rather not exchange places, because if it had not been for the help Agnes has given me I should not have known my lesson." The teacher was perplexed, for he knew how envious Willie was before to reach the top. Agnes, however, settled the matter by changing her place; whereupon the teacher said it was right, but advised Willie to do the same for Agnes if she were ill, and never to feel selfishly envious again; that Agnes had taught them a good lesson in disinterestedness, and made him desirous of cultivating the elements of Benevolence.

(d) With large domestic faculties, joined to Benevolence, is ready to make many personal sacrifices for the family; with large intellectual and thinking faculties,

is always pondering over the ills of society, and promoting schemes for benefiting others and making them happy; with small Conscientiousness and Acquisitiveness, will give away everything without proper regard to the wants of self; with large Combativeness and Destructiveness, are severe with those who oppress the poor, but are active in defending the oppressed and caring for their wants; with large Acquisitiveness and Cautiousness, and large Benevolence combined, will show great care and prudence in the laying out of money, will not waste, but give away in all practical ways possible; with large Approbativeness, gives only to get the credit of being generous, so as to gain the praise of friends, and always lets the left hand know what the right hand gives; with small Approbativeness and Self-esteem cannot bear to let any one know what charitable work he has done, or what contribution he has given; with large Alimentiveness, Approbativeness, and Friendship, will give and spend liberally for good dinners for friends. When large, without Cautiousness and Acquisitiveness, a child will give away impulsively whatever he is asked for.

(e) When small in children there is little inclination to divide and share with mates and friends. With the selfish propensities strongly developed, and small Conscientiousness, are not mindful of others, not even their rights and dues; are too selfish and greedy, and need to cultivate the milder elements of benevolence, generosity, and sympathy. Jane and Edith are always quarrelling about who shall have the largest piece of everything, the best seat, the nicest book, but they never think of giving up willingly to each other. Children with it small are invariably hard-hearted, uncharitable, and unsympathetic; they care but little whether others are happy around

them, but are occupied solely with selfish plans; they know none of the joys nor sorrows of sympathy, and make no personal sacrifices.

(f) An excess of this faculty leads a child to give away too readily and too impulsively; it leads to morbid generosity and sympathy, and must be controlled, and other faculties—such as Acquisitiveness, Cautiousness—brought more fully into exercise. If deficient it leads to so much meanness and uncharitableness as to be a decided weakness in the character; for such a child promotes no happiness in others, and receives none in return, and shows no interest in philanthropic works or home and foreign missions. If we had no strong development of this faculty there would be no society for the promulgation of Christian knowledge and moral teaching in foreign lands.

REPOSE.

"*O for a lodge in some vast wilderness,*
Some boundless contiguity of shade,
Where rumor of oppression and deceit,
Of unsuccessful or successful war,
Might never reach me more."—Wm. Cowper.

For Teachers.

DEFINITION.

Repose, the faculty of the mind which has the power of quieting all the organs of the brain. It indicates the person's need for regular rest.

LOCATION.

At the junction of the parietal, temporal, and occipital convolutions; below Cautiousness and Friendship, above Secretiveness and Combativeness.

The Physiognomical Sign is found in heavy eyelids. Sometimes with a short upper lip.

FOR CHILDREN.—QUESTIONS ON REPOSE, OR ———

[Localized by L. N. Fowler.]

(a) What is the definition of Repose? (b) What is its location? (c) How does it show itself in different people?

ANSWERS.

(a) Repose is the desire to sleep—long and soundly; it is a talisman that some children need more than others.

(b) It is encircled by Cautiousness, Friendship, Secretiveness, and Combativeness.

(c) How is it that some boys and girls are up in the morning, bright and early, and others like to lie in bed until the very last moment? Well, I see you do not know how to answer me, so I will explain what I mean. You have seen the little things that are like watches which your brothers put on their bicycles to test the number of miles they go in a day. And your brains are just such watches, and I can tell whether Charlotte is fond of much sleep, or if Harry is an early riser, so curious is the working of this wonderful machine. Now the use of knowing all about this clock is, because it has to be wound up every night by sleep, and some people need seven, some

eight, some nine hours' sleep, while others do not require many hours' rest at a time, but can take a nap in the brain, or sitting in the chair, for say four hours at a time. As rest is such a very great life restorer, it would have been strange if some mental indicator had not been given in the brain for regulating it, and in the organ of repose it has been tested in thousands of people until it has become an established element of the mind and function of the brain.

CHAPTER XII.

GLOSSARY OF TERMS.

A

Atavism, the recurrence of any peculiarity of an ancestor in a subsequent generation. Reversional heredity.

Auditory Nerve, see Nerve.

Arachnoid, see Membrane.

Areolar Tissue, see Membrane.

Artery, a vessel or tube which conveys the blood from the heart to all parts of the body.

Anatomy (Gr., ana, up, asunder; temno, to cut), the science of the structure of the body learned by dissection; the art of dissecting any organized body.

Angular Gyrus, see Convolutions.

B

Brachycephalic (Gr., brachys, short; kephale, the head), a head whose transverse diameter, or that from parietal bone to parietal bone, exceeds the antero-posterior diameter.

Brain, the organ of the mind; the physical instrument of thought and feeling; the medium of mental manifestation.

This term is sometimes applied to the whole of the contents of the cranium; at others, to the upper portion. The brain, properly so-called, extends from the os frontis to the superior occipital fossæ. Anteriorly, it rests on the orbital vaults; behind this, on the middle fossæ of the base of the cranium; and posteriorly on the tentorium cerebello superextensum.

C

Calamus Scriptorius, a small angular cavity at the superior extremity of the medulla, in the fourth ventricle of the brain; so called from its resemblance to the point of a pen.

Calcarine Fissure, see Fissure.

Circulation, the natural motion of the blood, whereby it is alternately sent by the action of the heart through the arteries to all parts of the body, and returned to the heart through the veins.

Collateral Fissure, see Fissure.

Choroid Plexus, a highly vascular, fringe-like membrane found in the ventricles of the brain.

Convolutions (L., con, together; volutus, to roll).

The convoluted eminences forming the surface of the brain, separated from each other by depressions of various depths. The exterior of the convolutions is composed of gray matter, and the interior of white matter.

Angular Gyrus, an angular convolution in the inferior parietal lobule, continuous with the convolutions of the temporo-sphenoidal and occipital lobes.

Ascending Frontal Convolution, an ascending or transverse convolution, posterior to the three horizontal convolutions in the frontal lobe of the brain.

Ascending Parietal Convolution, an ascending convolution lying parallel to, and behind the fissure of Rolando, in the parietal lobe.

Frontal Convolutions, three horizontal convolutions—the superior, middle, and inferior—which, with the ascending frontal convolution, form the outer surface of the frontal lobe of the brain.

Gyri Operti, the convolutions in the island of Reil.

Gyrus Fornicatus, "arched convolution"—the convolution of the corpus callosum, which lies parallel with the upper surface of the corpus callosum in the interior of the brain.

Marginal Gyrus, the convolution of the longitudinal fissure, bounding the margin of the fissure on the upper surface of the interior cerebral hemisphere.

Occipital Convolutions, three parallel convolutions, the superior, middle, and inferior, separated by two fissures, the superior and inferior occipital, in the occipital lobe.

Superior Parietal Convolution, a convolution posterior to the upper part of the ascending parietal convolution, and anterior to the intra-parietal fissure.

Supra-Marginal Convolution, a convolution in the lower parietal lobule, behind the lower portion of the inter-parietal fissure parallel with the lower part of the ascending parietal convolution.

Supra-Orbital Convolution, a convolution on the under surface of the anterior lobe.

Temporal Convolutions, three horizontal convolutions, the superior, middle, and inferior, in the temporo-sphenoidal lobe.

Cornu (L., cornu, a horn), a broad eminence curved on itself, and situated at the posterior part of the lateral ventricle. Its surface presents two or three tubercles, separated from each other by shallow grooves.

Coronal Suture, see Suture.

Corpora Albicantia (L., corpus, body; albus, white), two small, round, white bodies, situated immediately behind the tuber cinereum. They are formed by the anterior pillar of the fornix, and, being folded back upon themselves, are called the "bulbs of the fornix."

Corpora Geniculata (L., corpus, body; geniculum, a little knee), two small, flattened, oblong masses placed on the outer side of the Corpora Quadrigemina, and on the under and back part of each optic thalamus.

Corpora Pyramidalia, two bodies of white matter, one on either side of the anterior median fissure of the medulla oblongata, between the two olivary bodies.

Corpora Quadrigemina, four round eminences, placed in pairs, immediately behind the pineal gland, and above the aqueduct of Sylvius. In fishes, reptiles, and birds, there

are but two bodies, which are called the optic lobes. In man and animals these bodies are connected with the organs of sight.

Corpus Callosum (L., corpus, body; callosus, hard), a white transverse band of nerve fibres, arching from before backward, in the central line between the two cerebral hemispheres, connecting them and forming the roof of the lateral ventricles.

Corpus Dentatum (L., corpus, body; dentis, tooth), the ganglion of the cerebellum, an oval nucleus of gray matter, the circumference of which presents a number of indentations, surrounded with medullary substance. It is seen by dividing the stem of the cerebellum vertically into two equal parts.

Corpus Striatum (L., corpus, body; stria, a furrow), a pear-shaped body in the anterior portion of the lateral ventricle in front of the optic thalamus. It derives its name from being composed of layers of gray and white matter alternately.

Craniology (Gr., kranion, cranium; logos, a discourse; and skopein, to examine). It signifies a description, or simply an examination of the different parts of the external surface of the cranium, in order to deduce from thence a knowledge of the different intellectual and moral dispositions. "The cranium being moulded to the brain, there are as many prominences on the bone as there are projections at the surface of the brain." Strictly speaking, it is by cranioscopy that we acquire a knowledge of Craniology or Organology.

Cranium (Gr., kranos, a helmet; or kranon, head,) brain-pan, the skull. The collection of bones which form the case for lodging the brain and its membranes, as well as their vessels and some of their nerves. The bones are eight in number. Besides these, there might be considered as belonging to the cranium, the bones of the ear, cornua sphenoidalia, and the ossa wormiana.

Crista Galli, a thick, smooth, triangular process of bone rising above the cribriform plate of the ethmoid bone, and resembling a cock's comb, from which it derives its name. It gives attachment to the anterior part of the falx cerebri.

Crura Cerebri (peduncles of the cerebrum), two cylin-

drical bundles of white matter, formed of longitudinal nerve fibres of the medulla which pass forward between the fibres of the pons Varolii.

Cuneate Lobe (L., cuneus, a wedge), a part of the occipital lobe, between the parieto-occipital fissure and the calcarine fissure.

D

Dentate Fissure, see Fissure.

Diploe (Gr., diploos, double), the cellular tissue between the two plates of the skull.

Dolichocephalic, (Gr., dolichos, long; kephale, the head), a skull whose anterior posterior diameter, or that from the frontal to the occipital bone, exceeds its transverse diameter; a long head.

Dura Mater, see Membrane.

E

Ethmoid (Gr., ethmos, a sieve; eidos, like). The ethmoid bone is a small, light, spongy bone, situated at the anterior part of the base of the skull, at the root of the nose, and through which the olfactory nerves pass to the nose, and on which they are mainly distributed. It derives its name from the upper plate of the bone being perforated with numerous small holes.

Ethnology (Gr., ethnos, a nation; logos, an account), the science which treats of the division of man into races, their origin and relations, and the differences which characterize them.

F

Facial Nerve, see Nerve.

Falx Cerebelli, a small triangular process of the dura mater separating the two lateral lobes of the cerebellum. Its base is attached to the under surface of the tentorium

cerebelli; its posterior margin to the lower division of the vertical crest on the under surface of the occipital bone.

Falx Cerebri, a strong arched process of the dura mater, which descends vertically in the longitudinal fissure between the two hemispheres of the brain. It derives its name from being sickle-like in form; and is attached to the crista galli in front, and to the upper surface of the tentorium cerebelli behind.

Fissure L., fissus, to cleave), a deep, narrow depression between various parts of the brain.

Calcarine Fissure, a fissure in the occipital lobe, which runs nearly horizontally to join the parieto-occipital fissures. These two fissures enclose the wedge-shaped convolutions of the cuneate lobe, in the interior of the brain.

Calloso-Marginal Fissure, a fissure between the marginal gyrus and gyrus fornicatus, which runs backward and upward to join the fissure of Rolando, and separates the marginal gyrus from the quadrate lobe, in the interior of the brain.

Collateral Fissure, a fissure between the uncinate gyrus and dentate body, in the interior of the brain.

Dentate Fissure, a fissure running between the uncinate gyrus and the third temporo-sphenoidal convolution in the interior of the brain.

Great Horizontal Fissure. This fissure divides each hemisphere of the cerebellum into an upper and lower portion. It commences in front of the pons and passes horizontally round the margin of the hemispheres backward to the middle line, and from this primary fissure numerous smaller ones proceed.

Intra-Parietal Fissure, this runs between the superior parietal convolution or lobule and the supra-marginal gyrus.

Longitudinal Fissure, the great fissure of the brain, separating the cerebrum into two hemispheres, and into which the falx cerebri descends vertically.

Parieto-Occipital Fissure, separates the parietal from the occipital lobes.

Fissure of Rolando, a large transverse fissure separating

the upper part of the frontal and parietal lobes, while the lower portion of these lobes is separated by the fissure of Sylvius.

Fissure of Sylvius. This fissure separates the under surface of the anterior and middle lobes. It runs obliquely upward and backward. The fissure bifurcates, having a short branch running forward into the interior lobe. Within the Sylvian fissure are the convolutions of which the central lobe, or island of Reil, is comprised.

Transverse Fissure, a cleft in the lateral ventricles extending beneath the hemisphere on one side to a corresponding point on the other. It is bounded on one side by the fornix and on the other by the thalamus opticus. Through this fissure the pia mater passes from the brain into the ventricles to form the choroid plexuses.

Fontanelles (L., fons, a fountain), membranous intervals in the skull, so called from the pulsations of the brain perceptible at the anterior fontanelle, likened to the rising of water in a fountain.

The four fontanelles are situated at the junction of the four angles of the parietal with its contiguous bones. The anterior fontanelle, at the junction of the coronal and sagittal sutures, is the largest.

Foramen (L., foro, to pierce), a perforation in a bone; any cavity pierced through and through, as foramen magnum, etc.

Foramen Magnum, a large oval aperture in the skull, through which pass the medulla oblongata and its membranes, the spinal accessory nerves, and the vertebral arteries.

Fornix (an arch or vault), a longitudinal lamella of white fibrous matter, situated beneath the corpus callosum, and separated from it in front by the septum lucidum.

It consists of two symmetrical halves, joined together in the middle line, forming the body of the fornix, and separated in front and behind, forming the anterior and posterior crura. The anterior pillars of the fornix form the corpora albicantia.

Frontal Bone, the bone which forms the forehead, the roof of the orbits, and part of the nose. It extends backward as far as the coronal suture, where it is joined to the parietal bones.

Frontal Eminence, a rounded eminence, a little below the middle of the frontal bone. This eminence is the centre of ossification for the bone.

G

Ganglion, (a knot); (1), a collection of nerve-cells from which nerve-fibres are given off in one or more directions, as the optic ganglion; (2), a small mass of vesicular neurine in the course of a nerve distinct from the brain or spinal cord.

Genu (L., genu, the knee). The anterior portion of the corpus callosum turns downward and backward upon itself in the longitudinal fissure, making a knee-shaped bend, called the genu.

Gland (L., glans, an acorn, a cell or collection of cells having the power to secrete or separate some peculiar substances from the blood or animal fluids, as the lymphatic glands.

Glossopharyngeal, see Nerve.

Great Horizontal Fissure, see Fissure.

Gyrus (a ring), a convolution of the brain more circular in form than the other convolutions.

Angular Gyrus, see Convolution.

Gyrus Fornicatus, see Convolution.

Marginal Gyrus, see Convolution.

H

Heredity (L., heres, an heir), the transmission of qualities, mental and physical, from parents to offspring. The sum of all ancestral forces, plus life.

Hippocampus Major, Hippocampus Minor, the two principal cornua of the lateral ventricle, see Cornua.

Hygiene (Gr., hygieia, health, the goddess of health), the

department of medical science which treats of the preservation of health. The system of principles or rules designed for the promotion of health.

Hypoglossal, see Nerve.

I

Infundibulum (a funnel), a conical tubular process of gray matter projecting downward and forward from the tuber cinereum, the apex of which is attached to the posterior portion of the pituitary body.

Intra-Parietal Fissure, see Fissure.

Island of Reil, a small lobe of the brain located within the fissure of Sylvius, and consisting of about six convolutions (gyri operti), which are continuous with the convolutions of the frontal, temporal, and tempero-spenoidal lobes.

Iter a Tertio ad Quartum Ventriculum, the passage leading from the third ventricle to the fourth.

L

Lachrymal Bone (L., lachryma, a tear), the smallest bone of the face, situated at the front part of the inner wall of the orbit.

Lambdoidal Suture, see Suture.

Lamina Cinerea (L., lamina, a thin plate; cineris, ashes), a thin layer of gray substance extending backward above the optic commissure from the termination of the corpus callosum to the tuber cinereum, forming the anterior part of the inferior boundary of the third ventricle.

Ligaments (L., liga, to bind), straight inelastic fibres, arranged in short bands, completely surrounding the articular extremities of bones, uniting them to one another, and forming the articulations.

Lobe (L., lobus, round), the round projection or division of an organ, as lobes of the brain, and lobes of the heart.

Longitudinal Fissure, see Fissure.

Lymphatics, vein-like valved vessels in vertebrate animals, containing a transparent fluid—lymph. By these vessels the process of absorption is carried on.

M

Magnetism, (1) an agent or force in Nature which gives rise to the phenomena of attraction; (2) the science which treats of magnetic phenomena; (3) the reciprocal action and reaction between the planets, earth, and animated nature, penetrating everything; a fine subtle fluid, capable of receiving and communicating all kinds of motions and impressions.

Animal Magnetism, an agent of a peculiar and mysterious nature, said to have a powerful influence on the patient when acted upon by contact with or by the will of the operator.

Malar Bones (L., mala, the cheek), two small quadrangular bones, situate at the upper and outer part of the face, forming the prominence of the cheek and part of the outer wall and floor of the orbit.

Mastoid Process, the conical projection of the mastoid portion of the temporal bone, just behind the ear.

Masto-Parietal Suture, see Suture.

Maxillary Bones (Superior), the largest bones of the face, except the inferior maxillary bone, forming the whole of the upper jaw.

Maxillary Bone (Inferior), the largest and strongest bone of the face, forming the lower jaw and serving for the reception of the teeth.

Meatus Auditorius, the opening of the ear; the auditory canal situated between the mastoid process and the posterior portion of the zygoma.

Medulla Oblongata, the upper enlarged part of the spinal cord, extending from the upper border of the atlas to the lower border of the pons Varolii. It is composed of gray matter internally and white matter externally.

Membrane (L., membrana, a skin covering a member). It is the simplest form of organized animal substance, flexible, and formed of fibres interwoven like network.

Adipose Tissue, a membrane composed of vesicles containing fat.

Arachnoid Membrane (Gr., arachne, a spider; eidos, like), a serous membrane which envelops the brain, between the dura mater and pia mater, and prevents friction.

Areolar Tissue (L., area, a vacant space), a cellular-tissue investing the organs of motion.

Cutaneous Membrane (F., cutis, the skin), the membrane which forms the outside covering of the body, called the skin, and is similar in its structure to the mucous membrane.

Dura Mater (L., hard mother), the outer and fibrous membrane of the brain, lining the skull.

Fibrous Membrane, this forms the ligaments and tendons, and also the lining of the skull, the dura mater.

Mucous Membrane, the membrane lining all the cavities of the body which open externally, and continuous with the skin. It secretes the fluid called mucus.

Pia Mater, a fine vascular membrane, which covers the surface of the brain and dips into the fissures between the convolutions. It is the nutrient membrane of the brain.

Serous Membrane, this membrane lines all closed cavities of the body, as the chest, etc. Its use is to prevent friction (as the arachnoid membrane), and to facilitate the movement of one part upon another.

Synovial Membrane, a thin membranous layer which covers the cartilages.

Mesencephalon (L., mesos, middle; kephale, the head), the middle brain, including corpora quadrigemina, crura cerebri, aqueduct of Sylvius, and optic nerve.

Mesocephalic (L., mesos, middle; kephale, the head), pertaining to the middle head.

Motor Oculi, see Nerve.

N

Nasal Bones, two small, oblong bones, placed side by side at the middle and upper part of the face, forming by their junction the bridge of the nose.

Nerves (Gr., neuron, a sinew, a cord), organs of sensation and motion in animals. They are tubular cords composed of the same substance as that which composes the encephalon and spinal marrow.

CRANIAL NERVES.

Olfactory, the nerve of the sense of smell.

Optic, the special nerve of the sense of sight.

Motor Oculi, a motor nerve, which assists five of the seven muscles of the eye in movement.

Patheticus, the smallest cranial nerve. It supplies the superior oblique muscle of the eye, and helps it to rotate.

Trifacial, the largest cranial nerve, having three divisions; the ophthalmic, the superior maxillary, and the inferior maxillary.

Abducens. This nerve supplies the external rectus muscle.

Facial, the portio dura—the motor nerve for all the facial muscles of expression.

Auditory, the portio mollis—the special nerve of the sense of hearing.

Glossopharyngeal (the tongue and pharynx), a sensory nerve to the muscles of the tongue and pharynx, and a motor nerve to the pharyngeal muscles.

Pneumogastric (the lungs and stomach, par vagum). It supplies the voice and organs of respiration with motor and sensory fibres, and the pharynx, stomach, etc., with motor influence.

Spinal Accessory. This nerve has its origin in the lateral tract of the spinal cord, and is divided into two parts, one pneumogastric, the other spinal.

Hypoglossal or Lingual, the motor nerve of the tongue.

Neurilemma (Gr., neuron, a nerve; lemma, a husk), a fine, transparent membrane which forms a sheath investing the nerves, to every filament of which it forms a true canal.

Neuroglia, one of the chief constituents of the gray matter of the brain. It is the network of fine, connective tissue which pervades the nervous matter both of the brain and spinal cord.

O

Occipital Bone. This bone is situated at the back part and base of the skull, and contains the foramen magnum, through which the medulla passes.

It articulates with the parietal, temporal, and sphenoid bones, and the atlas.

Occipital Lobe, the posterior lobe of the upper surface of the cerebrum, consisting of three principal convolutions.

Occipital Spine, one of the centres of ossification of the occipital bone, forming a distinct protuberance.

It is situated about midway between the superior edge of the bone and the posterior margin of the foramen magnum.

Olfactory Nerve, see Nerve.

Olivary Bodies, olive-shaped bodies situate at the occipital surface of the medulla oblongata.

Optic Commissure, the point of junction between the two optic nerves. It is formed by the decussating fibres of the optic tract, and is situated immediately behind the lamina cinerea.

Optic Nerve, see Nerve.

Optic Thalamus, see Thalami Optici.

P

Palate Bones, these are situated at the back of the nasal fossæ, between the superior maxillary and sphenoid bones. They assist in the formation of three cavities: the outer wall of the nose, the roof of the mouth, and the floor of the orbit.

Parietal Bones (L., paries, a wall). These bones form the side and roof of the skull. Each bone is quadrilateral in shape and is developed from a single point of ossification. These bones articulate with the frontal, sphenoid, temporal, occipital, and with each other.

Parietal Eminence, a protuberance on the surface of the middle portion of the parietal bone, of which it is the centre of ossification.

Parietal Lobe, the superior lobe of the brain situate beneath the parietal bone, and containing four principal convolutions.

Parieto-Occipito Fissure, see Fissure.

Physiognomy (Gr., physis, nature; gnomon, one who indicates or interprets), the science by which the character of the mind is read as it is manifested in the features of the face.

Physiology (Gr., physis, nature; logos, science), the science of nature, which teaches the laws by which organism is governed, the various functions of the organs of the body, and how those functions are performed.

Pia Mater, see Membrane.

Pineal Gland (L., pinus, a fir cone), a small, reddish-gray body, conical in form, placed immediately behind the posterior commissure of the third ventricle of the brain. It was supposed by Descartes to be the seat of the soul.

Pituitary Body, a small, reddish-gray vascular mass, oval in form, situated in the sella turcica.

Pons Varolii, the bond of union of the various parts of the brain, connecting the cerebrum, cerebellum, and medulla oblongata. It is a bridge formed of alternate layers of transverse and longitudinal fibres, mixed with gray matter, passing from the cerebellum to the crus cerebri. It is situated above the medulla oblongata, below the crus cerebri, and between the hemispheres of the cerebellum, and rests upon the sphenoid bone.

Process, a projection of bone which forms the point of attachment for muscles.

Q

Quadrate Lobe, a small lobule of the brain, consisting of the portion of the mesial surface of the parietal, between the calloso-marginal fissure and the parieto-occipital fissure.

R

Reil; Island of, see Island of Reil.

Restiform Bodies (L., restis, a rope; forma, shape), a

rope-like section of the posterior portion of the spinal cord, consisting of fibres which pass upward to the cerebrum and cerebellum.

Rolando, Fissure of, see Fissure.

Rostrum (L., a beak), that portion of the corpus callosum which is the reflection from the genu. It becomes gradually narrower, and is attached to the anterior lobe, and connected through the lamina cinera with the optic commissure.

S

Sagittal Suture, see Suture.

Sella Turcica, a depression at the upper surface of the sphenoid bone, which lodges the pituitary body. It receives its name from its resemblance to a Turkish saddle.

Septum Lucidum (L., sepes, a hedge or partition), a thin, double, semi-transparent partition, of gray matter internally, and white matter externally. It forms the division between the two lateral ventricles, encloses the fifth ventricle, and is attached to the corpus callosum above, and the fornix below.

Sinciput, (L., semi, half; caput, the head), the fore part of the head, from the forehead to the coronal suture.

Sphenoid Bone (Gr., sphen, a wedge; eidos, like), the bone at the anterior part of the base of the skull, articulating with all the other cranial bones, which it wedges firmly together.

Spheno-Parietal Suture, see Suture.

Squamo-Parietal Suture, see Suture.

Sulci, a furrow of the brain, separating the convolutions or gyri.

Sulcus, Præcentral, a vertical sulcus, separating the three frontal convolutions from the ascending frontal convolution.

Superciliary Ridge (L., super, above; cilium, the eyelid), the projection of that portion of the frontal bone immediately above the eyelids.

Supra-Orbital Plate (L., supra, above; orbit, the eye), that which is situated above the orbit, and gives passage

to the supra-orbital, or superciliary artery, a branch of the ophthalmic which ascends the forehead.

Sutures (L., suo, to sew), rows of dentated processes of bone, projecting from the edge of either bone, and locking into each other.

Coronal Suture. This connects the frontal with the parietal bones.

Lambdoidal Suture, the suture connecting the occipital bone with the parietal, so called from its resemblance in shape to the Greek letter Lambda.

Sagittal Suture. This connects the parietal bones with each other and extends from the frontal to the superior part of the occipital bone.

Masto-Parietal Suture, a short suture formed by the posterior inferior angle of the parietal and the superior border of the mastoid portion of the temporal bone.

Spheno-Parietal Suture, a short suture formed by the tip of the large wing of the sphenoid and the inferior angle of the parietal bone.

Squamo-Parietal Suture, an arched suture formed by the squamous portion of the temporal bone overlapping the middle portion of the lower border of the parietal.

T

Thalami Optici, two large oblong masses between the diverging portions of the corpora striata, resting upon the crura cerebri.

Tœnia Semicircularis, a narrow band of white fibres lying in the groove between the optic thalmus and the corpora striata.

Transverse Fissure, see Fissure.

Tuber Cinereum, a small body of gray matter situated between the optic tract and the corpora albicantia. It is connected with the surrounding parts of the cerebrum and forms part of the floor of the third ventricle.

Turbinated Bones. The inferior turbinated bones are situated one on each side of the outer wall of the nasal fossæ.

Each consists of a layer of thin, spongy bone, curved upon itself like a scroll, hence its name "turbinated."

U

Uncinate Gyrus, see Gyrus.

V

Valve de Vieussens, a thin sheet of medullary substance, stretched between the superior peduncles of the cerebellum, forming part of the roof of the fourth ventricle and covering the passage between the third and fourth ventricles.

Velum Interpositum, a thin horizontal partition, triangular in shape, of vascular membrane. It is the central part of the pia mater, which penetrates into the lateral ventricles through the transverse fissure.

Ventricle (L., ventriculus, a little belly), a small cavity in an animal body, applied particularly to two cavities in the heart and five in the brain.

The Vomer (Vomer, or Ploughshare) is situated vertically at the back part of the fossæ forming part of the septum of the nose. It is thin, somewhat like a ploughshare in form. It articulates with six bones.

W

Wormian Bones, small bones which are sometimes found in the sutures of the bones of the skull. When ossification has been incomplete these bones gradually develop, until they fill what would otherwise have been a membranous interval in the skull.

Z

Zygomatic Arch (Gr., zygon, a yoke), an arch formed of processes of the temporal and cheek bones.

Our Children's Daily Record.

Had I not tried the experiment myself and kept a diary of my little nephew's growth from the day he was born to his present age, five years, I should have, perhaps, thought the task impossible; but I have found it always intensely interesting work. Through the commencement in this small way five years ago of taking a systematic record, I have obtained the co-operation of many mothers who now also see the beauty and usefulness of such a practice. These parents see the direct advantage I have obtained from my records through the hints and the drawing of comparisons and conclusions as to results which I have realized when examining other children. My diary has given me many hints, for instance, in avoiding certain kinds of discipline, injurious influences, books, etc. I have been able to give more encouragement to some in certain directions, and more to others in quite opposite ways. I have been able to give hints to nurses as to beneficial baths, diet, and habits to cultivate. My daily records have helped me to encourage mothers with their children, who were different in intelligence—one, perhaps, who could walk, talk, sing, and recite early and needed keeping back, while another was backward and needed encouragement. One being "so good" and "not a bit of trouble," another being a "little pickle, and always up to some mischief." The record of the treatment of the little acts of exasperation and method of punishments and how they acted on each child.

In cases of sickness, also, it is very useful to make notes of each, and I have added the word "diseases," so that notes may be made on each illness, for I have found many

valuable hints as to management and prevention of serious symptoms, food, and suitable entertainment which were too numerous to remember. On looking back, I find exact dates, which show me that my memory and imagination need the practical aid that my diary gives me, so I have kept notes on all important events. I made inquiries of parents of other children on growth of body and development of mind; of weight, at various periods; size of head and signs of intelligence; of resemblance to parents or grandparents; the color of hair and eyes; first attempts at walking; change of temperament; first words; first show of affection; besetting sins and favorite pastimes; school life and advances made in reports. But the keeping of children's diaries is not only for parental guidance or the help of teachers. I think that children themselves have a right to know something of their own childhood in later years, and of the place they occupied in the family. Will not the children themselves think more of *their* children, when they know the care and attention, the love and devotion, of their mothers through the carefully kept records? These will reveal the place he held in the mother's heart and mind. It will strengthen his character and inspire him to nobler purposes to know that his parents valued him so much that they labored to lay a sound, healthy foundation for his soul to develop on. Without these records a child grows up with only hearsay to help him to understand the joy, the anxiety, the labor he caused, yet which were cheerfully borne for his sake; the high ambition that was cherished for his intellectual and moral life, and his share in their pure love and unselfish devotion. How we all should prize such a chart of ourselves, if we only possessed one.

NOTES ON DEVELOPMENT.

NAMES OF PARENTS—

BORN (12.15 A.M.) August 13, 1892.

First Examination, four days old. Had written chart of Mental Faculties at four weeks old; three months; six months; one year; three years and four months, 1896; five years old 1897.

First Month.—Weight, 7¾ lbs.; length, 23 in.; head, 15 in.; sense of taste, milk from bottle; sense of sounds, did not like piano; clutched at flowers to smell; had photo taken; color of hair, light brown; eyes, blue.

Third Month.—Weight, 16¾ lbs.; length, 26 in.; head (circumference) 16 in.; sight, memory of objects, smiled at different things; memory of sounds, noticed different voices, expressed delight by imitating sounds heard.

Sixth Month.—Weight, 21 lbs.; length, 27 in.; head, 17 in.; sense of action, tore up paper into bits.

Ninth Month.—Weight, 24 lbs.; length, 27½ in.; head, 18¾ in.; sense of taste, orange juice, liked it; showed tactile power with feet, caught hold of stick with feet; sense of smell, recognized scent of different flowers; sense of sounds, put sounds together, "mummum," "aura," for Flora; actions of patti cake, patti cake, baker's man—had measles part of eighth and ninth month; before illness, travelled one hundred and nine miles, and later in month one hundred and nine miles home.

Twelfth Month.—Weight, 25 lbs.; length, 28 in.; head, 19⅛ × 12½; sense of taste, had a tomato, and liked it; sense of color, would pick out red, when asked; connection of ideas, knew the name of Hebe, Bim (the dog and cat), knew what "take your ball" meant; travelled four hundred miles; had a great idea of getting to the table.

Eighteenth Month.—Weight, 27½ lbs.; length, 29 in.; head measurement, 19¼ in. Not only said "book," "naughty," etc., but connected ideas, "father home," "bonnet off in house," "auntie home," "city money," his desire being to use the more important word first and distinguish the word afterward. He travelled again four hundred miles, and noticed many new objects on the road. His fear was darkness, but exaggerated its expression somewhat, to get company on going to bed. Memory of sounds good. Could imitate all the different sounds he had heard in the barn-yard.

Twentieth Month.—Head measurement, 19¾ in. CONNECTION OF IDEAS. "No, thank you, mother." "I tell you what." "Go to father."

Twenty-third Month.—CONNECTION OF IDEAS. "Go away doggie, don't want you," was afraid of it. "Pretty flowers—lots." "Milk, put in cup." "A pear, do like it," meaning the pear. He was very appreciative of everything given him, and generally used the most important word first, and the qualifying adjective second. He would say, "Our Father" (softly) "help me to be a good boy" (quickly).

Twenty-third Month.—OBSERVATION. Went to Grandma's, four hundred miles there and back. Said: "Rain, go away." "Stop rain," to Mrs. Pickford.

Twenty-fourth Month.—First Lesson in Mental Science. Said: "I want the *Lancet*." "Nice paper, there's lots in it." Pretended to read it, and continued to do so every week. This was owing to imitation, which is large in him.

Twenty-fifth Month.—Sense of possession very strong. "My pony." "My garden." "My mother." "My cap."

Twenty-sixth Month.—MEMORY. Miss Wing visited at house in July and August. She gave him an American Flag. He said in September: "American Flag, Miss Wing gave it to me." Objective Memory. He remembered her photo.

Twenty-sixth Month.—"I have been naughty." "Father, go and read to Grandpa." "I want my mother." Willie tucked up his sleeves in the garden, Baby said: "That is a good idea." "Hat on father—come along—go in garden!" "My garden." Began to examine Grandpa's head.

Twenty-seventh Month.—IMITATION. Went for dust-pan and brush and swept up mustard spilled on floor. Memory of place. On hearing Wales mentioned he remembered Mr. Williams came from there, and said he gave me my bricks. Imitation large.

Twenty-seventh Month.—IMITATION. Began imitating Grandpa and Auntie by placing his hands on Grandpa's head, as he had seen them do.

Twenty-seventh Month.—"Father, is this Benevolence and this Destructiveness?" pointing correctly to the positions on the head after he had seen a head examined, and had heard these parts mentioned. He said, in their proper places: "Don' cry." "Beg your pardon." "Excuse me, I must not do it again." The "I can't period."

Twenty-eighth Month.—Connected sound, words, and actions together, and asked: "Is Benevolence on top?" "Is this Destructiveness over ears?"

Twenty-eighth Month.—Sat up at eleven P.M. for a few minutes, and pretended to read "Girls' Own Paper."

Twenty-ninth Month.—Head measured 20¼ × 12¾ in. Imitation. When he took taper and lighted it like an older child. Was very fond of throwing things in the fire. Seemed to think it very funny and cute to do it before he was told not to do it. Had a great desire to be useful when lighting the taper. Would dust the chairs, the action being the language of large Destructiveness.

Twenty-ninth Month.—Said: "Shall I tell you a story about three little kittens who have lost their mittens; what's next, mother?" Took taper and lighted it. Knew most of the nursery rhymes, and corrected anyone if they misquoted them.

Twenty-ninth Month.—When asked where his Benevolence was on his own head, he said, pointing correctly to his head, "My Benevolence gone? Your's gone?"

IMITATION. Went through all the actions of having a service. His memory of sounds, singing of hymns, prayer, music, and sermon, was complete.

Thirtieth Month.—Father said the omnibus was not running. Baby said: "It's the horses that run, not the omnibuses." When he cried for father to go and see him in bed, his father said: "Don't cry and I'll come." Baby replied: "But I am not a man yet."

Thirtieth Month.—"I can't say 'Rockaby baby, on the tree-top.'"

Thirty-first Month.—He was much with his Auntie Virginia, whom he called his Auntie Ginger. He was much interested in hearing her read to Grandpa, and appeared to take it all in.

Thirty-third Month.—Knew Uncle Leo.

Thirty-third Month.—Had all his first teeth. Said: "I am exceedingly cross with you, mother."

Four Years and Four Months.—Said: "I want to vote for McKinley." "I'm too busy to talk to you now." "I am sick of it, mother."

Psychological Chart for Parents and Teachers.

1. The Names of Parents _____

2. The Name of Child _____

3. Born _____

Indicate by ×	First Month.	Sixth Month.	Twelfth Month.	Second Year.	Third Year.	Fourth Year.
4. Weight						
5. Length						
6. Head { Circumference						
6. Head { Height						
7. Taste						
8. Sight						
9. Touch						
10. Hearing						
11. Smell						
12. Language, how shown						
13. Sense of Distance						
14. Connection of Ideas						
15. Miles Travelled						
16. Photos Taken						

Psychological Chart (Continued).

Indicate by ×	First Month.	Sixth Month.	Twelfth Month.	Second Year.	Third Year.	Fourth Year.
17. Fear						
18. Diseases						
19. Growth of Attention						
20. Voluntary Actions						
21. Memory of Contrasts						
22. Growth of Interests						
23. Growth of Concentration						
24. Growth of Perception						
25. Growth of Observation						
26. Growth of Retention						
27. Memory, when well fed						
28. Memory, when hungry						
29. Memory, of Similarities						
30. His Imagination						
31. Abstraction						
32. Conception						
33. His Stages of Thinking						
34. Concepts, when formed						
35. Meaning of Words						
36. Judging and Reasoning						
37. Development of Analogy						

Psychological Chart (Continued).

Indicate by ×	First Month.	Sixth Month.	Twelfth Month.	Second Year.	Third Year.	Fourth Year.
38. Expression of Feelings						
39. Expression of Pleasures						
40. Expression of Pain						
41. Sense of Possession						
42. Temper, when expressed						
43. Love of Activity						
44. Feeling of Rivalry						
45. Sense of Approval						
46. Love of Approbation						
47. Love and Respect						
48. Feeling of Wonder						
49. Pleasures of Knowledge						
50. His Curiosity						
51. Taste for Beauty						
52. Color of Eyes						
53. Complexion						
54. Color of Hair						

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